This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

No.

BOSTON

MEDICAL LIBRARY,

19 BOYLSTON PLACE.

THE MEDICAL AND SURGICAL REPORTER.

EDITED BY

HAROLD HAVELOCK KYNETT, A.M., M.D.

JULY TO DECEMBER, 1896.

VOL. LXXV.

PHILADELPHIA:
BUTLER PUBLISHING CO.
P. O. Box, 843.
1896.

FEB 7 1898
LIBRARY.

EDITORIAL STAFF.

HAROLD H. KYNETT,
Managing Editor.

G. C. CLIFTON HOWARD,
Assistant Editor.

WILLIAM H. BURR,
Associate Manager.

A. L. BENEDICT,

S. M. WILSON,

A. A. ESHNER, *Ex-Officio for Philadelphia County Medical Society.*

CATALOGUED
FEB 7 1898
E. H. B.

CONTRIBUTORS TO VOL. LXXV.

ADLER, LEWIS H., M.D., Philadelphia, 329
ANDERS, J. M., M.D., Ph.D., LL.D., Philadelphia, 140
ARNOLD, H. A., M.D., Ardmore, Pa., 528

BALDY, J. M., M.D., Philadelphia, 8
BEACH, WILLIAM M., A.M., M.D., Pittsburg, Pa., 360
BEATES, HENRY, Jr., M.D., Philadelphia, 358
BEAVER, DANIEL B. D., M.D., Reading, Pa., 545
BENEDICT, A. L., A.M., M.D., Buffalo, N. Y., 193, 257, 307, 481, 804
BUNDY, ELIZABETH R., M.D., Philadelphia, 449
BURR, WILLIAM H., M.D., Philadelphia, 42, 488

CANTRELL, J. ABBOTT, M.D., Philadelphia, 135
CLEAVER, ISRAEL, M.D., Reading, Pa., 162, 554
COTHRAN, LINCOLN, M.D., San José, Cal., 691
COTT, GEORGE F., M.D., Buffalo, N. Y., 196
COTTON, JOHN C., M.D., Meadville, Pa., 609
CROCKETT, S. S., M.D., Nashville, Tenn., 392
CROTHERS, T. D., M.D., Hartford, Conn., 646
CRYER, M. H., M.D., D.D.S., Philadelphia, 112

DE SCHWEINITZ, G. E., M.D., Philadelphia, 13, 17
DOCK, GEORGE, M.D., Ann Arbor, Mich., 1
DOWNES, A. J., A.M., M.D., Philadelphia, 39.
DWIGHT, E. S., M.D., Smyrna, Del., 614

ENGEL, HUGO, A.M., M.D., Philadelphia, 707
ENGLISH, W. T., A.M., M.D., Pittsburg, Pa., 233
ESHNER, AUGUSTUS A., M.D., Philadelphia, 33, 775
EWING, W. BROWN, A.M., M.D., Wernersville, Pa., 641

FARNSWORTH, P. J., A.M., M.D., Clinton, Iowa, 238
FITE, C. C., M.D., New York, 779
FORWOOD, FRANCIS F., M.D., Chester, Pa., 740
FRANKLIN, CHARLES M., M.D., Lancaster, Pa., 394
FRENCH, J. M., M.D., Milford, Mass., 76, 321, 703
FULTON, JAMES, M.D., New London, Pa., 457

GORDON, ALFRED, M.D., Philadelphia, 807

HANSELL, HOWARD F., Philadelphia, 101
HARE, H. A., M.D., Philadelphia, 199
HAY, THOMAS, M.D., Philadelphia, 51
HILL, A. J., M.D., East Rochester, Ohio, 303
HILL, SAMUEL A., M.D., Wernersville, Pa., 550
HUBBARD, G. W., M.D., Nashville, Tenn., 423
HUFFMAN, J. W., M.D., Prescott, Iowa, 668
HUNSBERGER, J. NEWTON, M.D., Skippack, Pa., 777

KANE, EVAN O'NEILL, M.D., Kane, Pa., 264, 613
KEBLER, LYMAN F., Ph.C., B.S., Philadelphia, 332
KEEN, W. W., M.D., Philadelphia, 109
KEISER, JAMES W., M.D., Reading, Pa., 651
KELLY, ALOYSIUS O. J., A.M., M.D., Philadelphia, 266, 513, 711
KEYLOR, J. B., M.D., Cochranville, Pa., 709
KNIGHT, M. W., M.D., Milford, Mass., 197
KYNER, DAVID T., M.D., Macon, Ill., 373

LANDIS, HENRY, M.D., Reading, Pa., 585
LAUTENBACH, LOUIS J., A.M., M.D., Ph.D., Philadelphia, 71
LAZENBY, WILLIAM R., New York, 398
LEFFMAN, HENRY, M.D., Philadelphia, 799
LEITZELL, P. W., M.D., Philadelphia, 262
LINDSAY, JOHN, M.D., Philadelphia, 390
LONG, F. FARWELL, M.D., Chester, Pa., 453

McCORMICK, HORACE G., M.D., Williamsport, Pa., 202
McEWEN, FLOY A. B., M.D., Newark, N. J., 129
McTAGGART, M. F., M.D., Napa, Cal., 137
MAKUEN, G. HUDSON, M.D., Philadelphia, 100
MANLEY, THOMAS H., M.D., New York, 735
MASSEY, G. BETTON, M.D., Philadelphia, 388
MAYS, THOMAS J., A.M., M.D., Philadelphia, 767
MILLARD, F. R., M.D., San Diego, Cal., 420, 785
MINICH, A. K., M.D., Philadelphia, 299
MISHKIN, J., M.D., Philadelphia, 534
MONTGOMERY, E. E., M.D., Philadelphia, 460
MORRIS, ROBERT T., M.D., New York, 486
MOSS, T. R., M.D., Dyersburg, Tenn., 105
MURDOCH, FRANK H., M.D., Pittsburg, Pa., 494

PARCELLS, WALTER H., Lewistown, Pa., 235, 738
PEARCE, F. SAVARY, M.D., Philadelphia, 289

PETERSON, J. S., M.D., New York, 165
PRICE, JOSEPH, M.D., Philadelphia, 577
PRICE, MORDECAI, M.D., Philadelphia, 747

REGAR, HORACE K., M.D., Philadelphia, 465
REED, BOARDMAN, M.D., Philadelphia and Atlantic City, 417
RHOADS, J. NEELY, M.D., Philadelphia, 85
RIGNEY, JAMES, M.D., Raccourci, La., 353
ROBERTS, JOHN B., M.D., Philadelphia, 97, 558, 583
ROCHESTER, DE LANCEY, M.D., Buffalo, N. Y., 7
RUGH, J. T., M.D., Philadelphia, 549, 673

SATTERLEE, RICHARD H., M.D., Buffalo, N. Y., 70
SAVAGE, G. C., M.D., Nashville, Tenn., 65
SCHAMBERG, JAY F., A.B., M.D., Philadelphia, 37
SCHROETER, LUDWIG, M.D., Buffalo, N. Y., 683
SEBASTIAN, C. M., M.D., Martin, Tenn., 363
SEILER, CARL, M.D., Philadelphia, 425
SHOBER, JOHN B., M.D., Philadelphia, 611
SIMPSON, THEO. P., M.D., Beaver Falls, Pa., 385
SLIFER, H. F., M.D., North Wales, Pa., 327
SOMERS, LEWIS S., M.D., Philadelphia, 652
SPARRE, HENRIC, M.D., Pittsburg, Pa., 712
SPENCER, G. W., M.D., Philadelphia, 679
STENGEL, ALFRED, M.D., Philadelphia, 169
STERN, MAX J., M.D., Philadelphia, 676
STEWART, R. W., M.D., Pittsburg, Pa., 297
SYKES, GEORGE E., Buffalo, N. Y., 814

TALLEY, FRANK W., M.D., Philadelphia, 525
TOWLER, S. S., M.D., Marienville, Pa., 422

VEASEY, C. A., M.D., Philadelphia, 11

WALCOTT, HENRY J., JR., M.D., Philadelphia, 776
WALKER, GERTRUDE A., M.D., Philadelphia, 230
WALSH, JOSEPH P., A.M., M.D., Philadelphia, 167
WEST, S. D., M.D., Philadelphia, 589
WILEY, S. N., M.D., Norristown, Pa., 78
WILLARD, DE FOREST, M.D., Philadelphia, 491
WILLETTS, JOSEPH E., M.D., Pittsburg, Pa., 239
WILSON, JAMES H., M.D., Dover, Del., 225
WINNER, W. G., M.D., Wilmington, Del., 41
WOLFE, SAMUEL, A.M., M.D., Philadelphia, 206

GENERAL INDEX.

Abdominal Hysterectomy vs. Vaginal, a Comparison of the Known Advantages and Disadvantages of, 658.
Pain, Sudden acute; its Significance, 625
Retractor, A New, 39. Discussion, 57
Section by a Cow's Horn, 501
Section for Hydrosalpinx, 353
Work, A Suture Clamp to be Used Instead of Hemostatic Forceps in, 85
Wounds, Suturing, Without Buried Sutures, 85
Abortion Caused by Guaiacol, 223
New Method for Inducing, 19
Abortions, Unavoidable, 181
Abscess, Prostatic, A Case of, 390. Discussion, 413.
Alveolar, with Antral Complications, 100. Discussion, 127
Absorption vs. Assimilation, 470
Abuse of Digitalis, 233
Accidental Injuries, 156
Accident, What Constitutes an? 408
Acetanilid Poisoning, 686
Acne, How to Treat Successfully, 372
Rosacea, Treatment of, 47
Acromegaly, Differential Diagnosis, 350
Acute Pelvic Peritonitis from the Standpoint of the General Practitioner, 8
Address, 398
Introductory, 449
Adulteration of Foods, 365
Advertising Both Houses, 387
Pages, 435
Albumin, Method of Testing the Urine for, 576
Albuminuria, Hot-air Bath in, 701
Alcohol, is it Essential in the Treatment of Disease? 78
Alcoholic Stimulants in the Treatment of Disease, 457
Stimulants in Typhoid Fever, the use of, 385
Alcoholism, Treatment of, No. 1, 321, No. 2, 703
Alimentary Organs, Purely Physical Examination of the, 257
Alienism in Private Practice, 550
Alopecia Areata, 222
Cause of, 159
Alveolar Abscess, with Antral Complications, An Unusual, 100
American Gout or Lithemia, Treatment of, 415
Ammoniacal Breath, 701
Amputation, Neuromata After, 635
Anastomosis, Intestinal, a New Ring for Use in, 545
An Absolute Denial, 814
Anemia, Blood in, 534. Discussion, 542
Case of Pernicious, 188, 639
Grave, treatment of, 367
Injections of Salts of Iron for, 433
Pernicious, 188
to Chorea, The Relations of, 534. Discussion, 542
Anesthesia, Chloroform, During Sleep, 554
During Sleep, 668
Semi-centennial of, 606
With Modern Anesthetics, 740
Anesthetic, Local, Further Investigation of Eucain Hydrochlorate, as a, 679
Anesthetics, Their Action on the Kidney, 32
Angina Pectoris, with Rupture of the Left Ventricle, 7
Antiseptics as Preservatives in Beverages, 255
Antipyretics, 158
Antipyrin Eruption, A Case of, 509
Antitoxins, How They are Developed, 669
Antral Complications, An Unusual Alveolar Abscess with, 100
Anus, Artificial, and Fecal Fistula Treated by Intraperitoneal Operation, Cases of, 97. Discussion, 127
Aphasia of the Hand, 686
Appendages, Operation for the Relief of Chronic Disease of, 364
Appendicitis, 715
When to Operate in, 32
Vomiting of, 675
Argumentum ad Hominem Still the Most Efficient Method, The, 599
Arsenic, Large Doses in Children, 31
Arteries, Coronary, Some Notes on, 1
Arthritic People, Dyspepsia with Dilatation of the Stomach among, 368
Artificial Anus and Fecal Fistula Treated by Intraperitoneal Operation, Cases of, 97
Emaciation, the Danger of, 530
Feeding of Infants, 267
Asepsis in Country Practice, 156
Asphalt and Public Health, 365
Assimilation, Can it be Increased by Remedial Gymnastics? 712
Asthma, Hay, 777
"A Stimulus," 434
Atavism and Color-blindness as Correlated, 62
Atrophy of the Skin, Erythematous, 135
Aural Herpes, 716
Auto-intoxication, 199. Discussion, 219
Autopsies, Some Notes on, 167

Bananas a Nutritious Food, 732
Bassett, George P. (Obituary), 607
Baths, Hot, in Overwork, 734
Beri-beri, Cases of, 383
Berlin Polyclinic, Means of Diagnosis in the, 343
Bicycle Saddles and Their Relation to Riders, 42
Bile-duct, Common, Case of Fatal Infantile Jaundice from Congenital Narrowing of the, 431

Biliary Calculi, 585
Calculus and its Diagnosis, 238
Birth Through Central Rupture of the Perineum, 287
Bladder, Emptying of, 469
Blennorrhagia, Washing the Canal in, 272
Blennorrhagic Metritis, Diagnosis and Treatment of, 146
Blindness, Sudden, from Nasal Disease, 101. Discussion, 128
Blood in Chorea, The, 534. Discussion, 542
Morphology of, in the diagnosis of Tuberculosis, 751
Boil on Nose, 157
Bones, Maxillary, and their Relations with some of the adjacent tissues, A study of the, 112.

Book Reviews.

American Home Magazine, 443
Anatomy, A Manual of, 573
Angelo Mosso, 443
Appendicitis, A Treatise on, 62
Bacteria, Text-book upon the Pathogenic, 443
Borderland Studies, 61
Brothers, A., B.S., M.D., 442
Buck, Albert H., M.D., 700
Buffalo, Manual of the Common Council of, 1896, 153
Butler, George Frank, Ph.G., M. D., 697
Cliniques, Royal Infirmary, 698
Codes, The Three Ethical, 60
Comedy of Sentiment, 698
Corwin, Arthur, M., A.M., M.D., 697
Deaver, John B., M.D., 62
Deformities, a Treatise on Orthopedic Surgery, Intended for Practitioners and Advanced Students, 697
Dennis' System of Surgery, 572
Diagnosis, Clinical—A Practical Handbook of Chemical and Microscopical Methods, 444
Diagnosis, Physical, of the Thorax, 697
Diet for the Sick, 443
Diseases of Infancy and Childhood, 154
Dorland, W. A. Newman, M.D., 573
Drant, Mrs. Emma, 443
Fear, 443
Gould, George M., A.M., M.D, 60, 61
Harper's Magazine, 61
Round Table, 573
Weekly, 574
Haynes, Irving S., Ph.B., M.D., 573
Hibbard, Miss E., 443
Infantile Mortality during Childbirth and its Prevention, 442
International Medical Annual and Practitioner's Index, the, for 1896
James Alexander, M.D., F. R. C. P. E., 698
Leonard C. Henri, M.A., M.D., 444
Lippincott's Magazine, 61, 573
McFarland, Joseph, M.D., 443
Materia Medica, Therapeutics, and Pharmacology, 697
Metaphysical Magazine, 62
Miskel, 696
Monist, The 154
Multum in Parvo Reference and Dose Book, 444
Nordau, Max, M.D., 699
Nursing, Practical Points in, 443
Obstetrics, A Manual of, 573
Oleson, Charles W., M.D., 153
Ophthalmic Operations as Practiced on Animals' Eyes, 698
Peterson's Magazine, 61
Phillips, L.M., M.D., 696
Physiology, American Text-book of, 696
Elementary for Students, 699
Kirke's, 700
Récherches Cliniques et Thérapeutiques sur l'Épilepsie, l'Hystérie et l'Idiotie, 698
Review of Reviews, The 60
Right to Love, The 699
Robertson, W. G. Aitchison, M.D., F.R.C.P.E., F.R.S.E., 444
Schofield, Alfred T., M.D., M.R. C.S., 699
Scribner's Magazine, 574
Secret Nostrums and Systems of Medicine, 153
Smith, J. Lewis, M.D., 154
Stoney, Emily A., 443
Student's Medical Dictionary, 60
Table Talk, 61, 700
Therapeutics, An American Text-book of Applied, 571
Tubby, A. H., M. S. Lond, F.R.C.S. Eng., 697
Twentieth Century Practice, 572
Veasey Clarence A., A.M.. M.D., 698
Vest Pocket Medical Dictionary, 700
Weir's Index to the Medical Press, 153
Wilson, J. C., M.D., 571

Borax in Food Preservation, 15
Brain, Encapsuled Tubercular Tumor of the; Cessation of the Unilateral Convulsions Caused by the Growth, 439
Breast, Cancer of, 392
Bright's Disease, Pilocarpin in Uremia of, 431
Bronchitis, Acute, Points in the Pathology and Treatment of, 27
Broncho-Pneumonia, 271
Acute, Use of Cold in the Treatment of, 55
Broth in Digestion, 811
Burns, A Convenient Remedy for, 318
Caffein for Asthma, 182
Calculi, Biliary, 585
Calculus, Biliary, and its Diagnosis, 238
Calomel Treatment of Typhoid Fever, 575
Camphor, Artificial Cultivation of, 672
Cancer of Breast, 392
Carbolic Acid Burns, Vinegar in, 511
Poisoning, 303
Carbon Disulfid, Chronic Poisoning by, 575
Carbuncle, The Treatment of, with Zinc Chlorid, 672

Cardiac Affections due to Gout, 383
Diseases as Encountered in Country Practice, 614
Castration, Cosmetics of, 543
Cataract, Immature, Concerning the Extraction of, 16. Discussion, 31
Catarrhs, Intestinal, in Infants, Medicinal Treatment of, 535
Cavities, Ethmoid and Sphenoid, A Case of Acute Loss of Vision from Disease of the, 101. Discussion, 128
Celiohysteropexy in Gynecology, The Proper Position of, 525. Discussion, 538
Celiotomy, Dressing for the Wound in, 383
Incision, The Best Method of Making and Closing the, 345
Secondary, 262
Centenarians, 43
Cerebral Manifestations of Lead Poisoning, 479
Cerebral Syphilis, The Symptoms of, 701
Cerebro-Spinal Syphilis, 775
Cerium Oxalate in Large Doses, 351
Cervix, Epithelioma of, Vaginal Hysterectomy for, 353
Schleich's Fluid in Operation on the, 589
Cesarean Section, Suture of Uterus in, Versus Total Extirpation, 44
Chelidonium, Majus in, 810
Continued Increase of, 597
Gall-bladder, Relations of Gall-stones to, 734
Is Surgery a Cure for? 430
Uterine, Diagnosis of, 448
Uterine, Treatment of, 700
Chilblains, Treatment of, 46
Chinese Method of Predicting Sex, 382
Chloral, 181
Chloroform Anesthesia During Sleep, 554
Administration of, its Dangers and their Treatment, 218
Narcosis, 129
Or Ether, 210
Chlorosis NoContra-indication to Marriage, 512
Cholelithiasis, Report of a Case of, 105
Cholera, 366
Deaths from, 48
Returns, 594
Chorea, Blood in, 534. Discussion, 542
Relation of Anemia to, 534. Discussion, 542
Chronic Bronchitis of Children, 271
Gouty Affections, Treatment of, 479
Inflammation of the Spine, 810
Cicatricial Contractures and Inoperable Tumors, Thiosinamine for, 479
Ciliary Staphyloma and Excavation of the Optic Disc Following Traumatic Cataract, 380
Cinnamon in Carcinoma, 157
Cirrhosis of the Liver and Diabetes, The Relation Between, 445
Cleft Palate, A New Operation for, 576
Climate in Health and Disease, Resources of, 122
Clinical Classes, In Regard to Mixed, 701
Cocain and Cocainism, 402
Applied to the Mucous Membranes of the Nostrils a Specific for Nausea, 412
Solubility of, 598
Surgical Use of, 448
Codein in Surgical Cases, 413
Coffee as a Disinfectant, 254
Strong, Profound Toxic Effects from the Drinking Large amounts of, 549. Discussion, 635
Cold in the Treatment of Acute Broncho-Pneumonia, 55
Local Application of, in Acute Pneumonia, 767
To Abort, 190
Coli Bacillus and its Toxins, The Culture and Inoculation of, 734
Collodion for Fistula in Ano, 168
Colon, Importance of Making Examinations of the Sigmoid Flexure of the, 623
Color-Blindness and Atavism, as Correlated, 62
Colotomy, Left Inguinal, for Stricture of Rectum, 353
Common Bile-Duct, Case of Fatal Infantile Jaundice from Congenital Narrowing of the, 431
Compensation, Diuretics in Heart Diseases with trouble of, 367
Complications, Antral, an Unusual Alveolar Abscess with, 100
Hay Fever and its, 528
Of Menopause, Treatment of, 434
Congenital Narrowing of the Common Bile-Duct, Case of Fatal Infantile Jaundice from, 431
Occlusion of the Urethra, A Case of, 512
Conjunctivitis, Treatment of, 368
Consanguineous Marriages, 510
Constipation, Causes for Chronic, 671
Chronic, of Infants, 255
Consumption Among the Colored Population of the Southern States, 423
Pulmonary, The Action of Strychnin in, in Relation to the Neurotic Origin of the Disease, 53
Consumptives, Concealing the Nature of the Malady from, 734
Instructions to, 54
Contagious Diseases, Measures to Prevent Physicians from Contracting, 44
Of the Lower Animals and their Relation to the Human Family, 636
Report of, by Physicians, 544
Contractures, Cicatricial, and Inoperable Tumors, Thiosinamine for, 479
Corneo-scleral Junction, Wounds of, with Prolapse of the Iris, Concerning the Repair of, 13. Discussion, 30
Coronary Arteries, Some Notes on, 1
Corrosive Sublimate in Whooping Cough, 367
Cost and Compensation in a Doctor's Life, 76
Cough and Associated Conditions, Treatment of, 416
In Measles, A Remedy for the, 368
Cover-Chimney, Asbestos, for Opthalmoscopic Purposes, 381
Crime, Treatment of, 714
Criminals Used for Experimentation, 221
Cripples, Surgical and Mechanical Relief for the So-called Hopeless Paralytic, 491

Culture and Inoculation of Coli Bacillus and its Toxins, 734
Cure for Cancer, Is Surgery ? 430
Cure of Ingrowing Toe-nail, Relapseless, 613
Curetting in Extra Uterine Pregnancy, 811
Cycling as a Cause of Heart Disease, 496
Cystocele, Rectocele, and Uterine Prolapse, Medical Treatment of, 369
Cysts, Ovarian, Suppuration of, 446

Damages in Abdominal Surgery, 223
Dangers of the Lean-meat Diet, 496
Death from Snake-bite, 415
Hour of, 604
Deaths from Cholera, 48
Declarations, Dying, Legal Value of, 749
Decline of Quackery, The, 689
Deformity in Fractures of the Extremities, The Prevention of, 558
Degeneracy of the Race, 156
Degrees, Obtaining of, at German Universities, 511
Denial, An Absolute, 814
Dermatitis, Severe, The Action of Roentgen Rays in Producing, 576
Determination of Sex, The Relation that the Ovaries Bear to the, 511
Diabetes, 193
And Cirrhosis of the Liver, The Relation Between, 445
In Married People and its Transmission, 444
Spinal Cord Affections in, 445
Diagnosis, Biliary Calculus, 238
In the Berlin Polyclinic, 343
For Typhoid Fever, The Serum Test as a Method of, 718
Pregnancy by the Changes in the Microscopic Appearance of the Urinary Phosphates, 437
Pregnancy, Early, 544
Uterine Cancer, 448
Diagnostic Instrument in Cases of Suspected Tuberculosis, Fever Thermometer as a, 511
Value of Nervous Manifestations, 511
Value of Gesture, 447
Diarrhea, Chronic Form of Inflammatory, 382
Diastasic Power of Malt Extracts, 480
Diathesis, The Insane—Illusions, Hallucinations and Delusions, 641
Dietary, Some Additions to our Vegetable, 619
Diet, Dangers of the Lean-meat, 496
Dieting in Skin Diseases, 144
Digestible Water, 664
Digestion, Part Played by Micro-organisms in, 95
Stomach, 494. Discussion, 507
Digestive Disturbances in Infants, 671
Ferments with Especial Reference to their use in Surgery, 481
Digitalis, Abuse of, 233
In Pneumonia, 156
Digitine, A Contribution to the Clinical Study of, 358
Dilatation of the Stomach Among Arthritic People, Dyspepsia with, 368
Diminution of Natality of the French, 191
Diphtheria in Families, How to Handle, 32
Local Treatment of, 607
Local Treatment of, with Sodium Hyposulphite, 478
Not Identical in Man and Animals, 191
Sulphur a Specific for, 192
Discovery of Anesthesia, The, 498
Disease and Recovery as Related to Therapeutics, 661
Germ Theory of, 362
Names, Origin and History, 209
Diseases, Cardiac, as Encountered in Country Practice, 614
Contagious, Measures to Prevent Physicians from Contracting, 44
Contagious, of the Lower Animals and Their Relation to the Human Family, 636
Disinfection of Rooms by Sulphurous Acid Gas, 565
Disorders, Mental, 394
Disturbance, Febrile, A White Tongue Indicates, 95
Diuretics in Heart Diseases with Trouble of Compensation, 367
"Doctor," 215
and agents, 371
As a Student of Medicine, 310
Country, 608
Doctors, City and Country, 668
"Don'ts," Supererogatory, 48
Dorso-anterior Positions of the Fetus, Cause of the Preponderance of the, 28
Dressing for the Wound in Celiotomy, 383
Drunkenness, Heroic Treatment for, 160
Duboisin Poisoning, A Case of, 11. Discussion, 30
Duodenal Indigestion, Chronic, 611
Dying Declarations, Legal Value of, 749
Dying, No Agony in, 512
Dyspepsia with Dilatation of the Stomach Among Arthritic People, 368
Dysphagia of the Larynx, Treatment of, 339

Ear, Nose and Throat, The use of Hydrogen Peroxid in Diseases of, 401
Phono- and Pneumo-massage in Suppurative Disease of the, 71
Eating, Excessive Meat, 81
Ecbolic Action of Sugar, 574
Ecchymoses from Natural Causes, 256
Echinococcus of the Pelvis, 157
Eclampsia, 165, 639
Prophylaxis of, 337
Puerperal, Report of Cases of, 497. Discussion, 508
Puerperal, Veratrum Viride in, 502
Ectopic Pregnancy, Review of an Editorial on, 747
Edema, Forms of, not Dependent upon Disturbances of Circulation or Chronic Nephritis, 733

EDITORIAL.

Absorption vs. Assimilation, 470
Advertising Pages, The, 435

Argumentum ad Hominem Still the Most Efficient Method, The, 599
Decline of Quackery, The, 688
Digestible Water, 664
Discovery of Anesthesia, The, 498
"Doctor," 215
And the Agents, The, 370
As a Student of Medicine, The, 310
Use of the Word, 405
Editor on Editorials, 782
Good Opening for a Young Physician, a, 185
Health and Diet, 404
Medicines in Disguise, 248
One Man His Own Trumpeter, 601
Patents and Trade-marks, 341
Peripatetic Professors and the Schools for the Profits, 82
Physician's Private Life, The, 49
Privileged Communications, 20
Professional Advertising, 531
Complaints, 274
Relative Sexual Purity, 123
Serum Treatment in Private Practice, 148
Skimmed and Separator Milk, 724
Spitting in Public Places, 563
State Examining Boards and Chartered Medical Institutions, 22
Surgical Status of the Bicycle, The, 617
Suspensio Uteri, 745
Use of the Word Doctor, The, 405
Vivisection, 183

Educational Requirements for the Entrance upon a Medical Course, 245
Effects of Snuff on the Human System, 503
"Eight-day Sickness," 544
Electricity in Gynecology at the Howard Hospital, 388. Discussion, 413
Emaciation, The Danger of Artificial, 530
Embolism, Fat, 369
Emotion Products, 270
Encapsuled Tubercular Tumor of the Brain; Cessation of Unilateral Convulsions caused by the Growth, 439
Encephalon, Obscure Traumatic Lesions of the, 235
End of Quackery in the Bellevue Hospital, 349
Endometritis, Virginal and Senile, 62, 142
Enemata, Forced, and Volvulus, 181
Enophthalmus, Case of Traumatic, 379
Entero-colitis, Acute, 409
Epilepsy, Cases of Focal and Jacksonian, 510
Moral Treatment of, 415
New Treatment for, 19
Potassium Bromid in, 448
Epithelial Sowing; a New Method of Skin-grafting, 713
Epithelioma of Cervix, Vaginal Hysterectomy for, 353
Eruption, Antipyrin, A Case of, 509
Erythema Nodosum Trachealis, 196
Essential Paroxysmal Tachycardia—Report of Four Cases, 513
Ether or Chloroform, 210
Ethmoid and Sphenoid Cavities, A Case of Acute Loss of Vision from Disease of the, 101. Discussion, 128
Etiology of Deformity, 288
Eucain Hydrochlorate as a Local Anesthetic, Further Investigation of, 679
Examination of Sputum, 95
Urine, A Routine, 416
Examinations of Sigmoid Flexure, Importance of Making, 623
Exercise in Middle Age, 733
Ex-medicos, 657
Exophthalmic goitre, The Symptomatology and Pathology of, 52
Extirpation, Total, Suture of Uterus in Cesarean Section Versus, 44
Extra-uterine Pregnancy with Fetus Retained for Seven Years, Case of, 537
Eye Injuries, The Magnet in, 433
Eyelid, Application for Furuncles of, 691
Eyes, Microscopic Specimens, 381
Eye-strain, 160

Face, Minor Surgery of the, 382
Facial Neuralgia, Reflex, 400
Fat Embolism, 369
Febrile Disturbance, A White Tongue Indicates, 95
Fecal Fistula and Artificial Anus Treated by Intraperitoneal Operation, 97
Feeding, Artificial, of Infants, 327
Irregular, The Sunday Penalty of, 596
Fees of Physicians, 319
Fetus, Cause of the Preponderance of the Dorsa Anterior Positions, 28
Retained for Seven Years, Extra-Uterine Pregnancy with, 537
Fever, Hay, and its Complications, 528
Fevers, Continued, Gangrene Following, 615
Of the South, 247
Fever Thermometer as a Diagnostic Instrument in Cases of Suspected Tuberculosis, 511
Fever, Typhoid, The use of Alcoholic Stimulants in, 385
Fibroid, Multiple, of the Uterus, 478
Fibroids, The Surgical Treatment of, 86
Fibromata, Gangrenous Suppuration of, Independent of the Uterine Cavity, 446
Fingers, Cases of Severe Injury to the, 414
Fish for the Sedentary Man, 414
Poisonous, 158
Fissura Ani Treated Without Operation, 214
Fissure of the Anus, 315
Fistula, Fecal, and Artificial Anus Treated by Intraperitoneal Operation, 97
Fistula in Ano, 453
Fistulæ, Rectal, Special Forms of, 360
Focal and Jacksonian Epilepsy, Cases of, 510
Food, Bananas a Nutritious, 732
Inspection, 179
Preservative, Use of Salicylic Acid as a, 575
Foods, The Adulteration of, 365
Forceps, Hemostatic, in Abdominal Work, A Suture Clamp to be Used Instead of, 85

FORMULÆ.

Abortions, 181
Absorbent Powder, 670
Acne, 154, 372
Anesthesia, Local, Mixture for, 155
Anesthetic, Local, Parsen's, 189
Appendicitis, the Vomiting of, 675
Artificial Feeding of Infants, 155
Asthma, 64, 670
Baldness, Local Treatment of, 702
Black Teeth, 189
Bleeding Gums, 318
Bronchitis, 155, 271, 317
Broncho-Pneumonia, 271
Cancer of the Uterus, 700
Carcinoma of Internal Organs, 157
Chilblains, 317
Chloasma of Pregnancy, 64
Chlorosis, 214
Cirrhosis of Liver, 155, 182
Corns, 670
Coryza, 181, 190
Cough, 154, 368
Diabetes, 155
Diarrhea, 382, 670
Dilatation of Stomach, 368
Dysentery, 670
Dysmenorrhea, 189
Dyspepsia, 368, 670
Earache, 670, 181
Eczema, 64, 96, 189
Enterocolitis, 410
Epilepsy, 670
Erythema Intertrigo, 190
External Hemorrhoids, 330, 332
Face bleach, 189
Fever Blisters, 670
Fissura ani, 214
Furuncles of the Eyelid, 691
Gastralgia, 154, 317
Gastritis, chronic, 214
Gleet, 52
Goiter, 318
Gonorrhea, 317
Gout, 64, 318
Hay Fever, 96, 189, 192
Headache, 64, 282
Heart, Hypertrophy of, during Growth, 369
Herpes Zoster, 154, 317
High Arterial Pressure, 154
Hyperidrosis, 190, 272
Hysterectomy, Vaginal, 807
Influenza, 64
Lumbago, 96, 479
Lumbarin, 707
Measles, Cutaneous Irritation of, 670
Migraine, Asthma or Nervous Colic, 189
Mouth Wash for Gums Affected by Calomel, 351
Nephritis, 189, 318
Neurasthenic Headache, 64
Obesity, 670
Obtundent for hypersensitive teeth, 480
Ophthalmia Neonatorum, 270
Ozena, 155
Paralysis Agitans, 64
Parasiticide, 64
Parenchymatous Injections, 46
Peritonitis, 96
Piles, 64, 330, 332
Pityriasis Capitis, 190
Pneumonia in Children, 318
Prickly heat, 190
Pruritis, 181
Pruritis Vulvæ, 318
Psoriasis, 155
Purgative, Hypodermatic, 670
Quinine Hair Wash, 155
Quinine, Hypodermatic Injections of, 146
Ringworm, 64
Rheumatism, 96, 479
Rhinitis, Acute, 317
Rhus Poisoning, 190
Scalp, 190
Sciatica, 155, 470
Sore-throat, Rheumatic, 155
Syphilis, 213
Tape-worm, 154, 214
Test for Sugar in Urine, 160
Toothache, 181, 576, 670
Tubercular Diseases, 139
Ulcer of Stomach with Hemorrhage, 213
Urethritis, 272
Uterine Hemorrhages, 339
Uterine Prolapse, Rectocele and Cystocele, 369
Vaginitis, 155
Vertigo, 282
Vomiting, 190
Whooping-cough, 64, 189

Fracture of Humerus, Intra-capsular, Unprecedented Results of an, 406
Fractures of Extremities, The Prevention of Deformity in, 558
Fruits Related to Health, 398
Furuncles of the Eyelid, An Application for, 691

Gall-stones, Relations of, to Cancer of Gall-bladder, 734
Gangrene Following Continued Fevers, 615
Gangrenous Suppuration of Fibromata, Independent of the Uterine Cavity, 446
Gastric and Intestinal Disorders, Hydrozone, in, 595
Gastritis, Chronic, with Periodic Attacks of Migraine, 29
General Paralysis, The Relationship Between Chronic Renal Disease and, 63
Germicidal Powers of Oxalic Acid and Potassium Permanganate, 734
Germ Theory of Disease, The, 362
Gesture, Diagnostic Value of, 447
Ginseng root, Presentation of, to Li Hung Chang, 414
Glass, Cutting of, with a Layer of oil, 667
Gleet and its Treatment 51, 52
Glycerin Injections in the Uterine Cavity, 146
Gonorrhea a Cause of Sterility, 190
Gonorrhea in Women, a Practical Consideration of, 472
Gout, American, or Lithemia, Treatment of, 415

Cardiac Affections due to, 383
Chronic, Treatment of, 340
Local Treatment of, 671
Gouty Affections, Treatment of Chronic, 479
Growth, Hypertrophy of the Heart during, 369
Guaiacol a Cause of Abortion, 223
for Tuberculous Iritis, 214
Hypodermatic use of, 415
in Fissure of the Breast, 271
Some Therapeutic Uses of, 140, 202. Discussion, 219
Gymnastics, Remedial, can Assimilation be Increased by ? 712
Gymnastic Treatment of Scoliosis and Allied Conditions, Movements of the Normal Spine as a Basis for the, 673. Discussion, 726
Gynecology, Electricity in, at the Howard Hospital, 388. Discussion, 413
Proper Position of Celiohysteropexy in, 525. Discussion, 538

Halcyon Time for Doctors, 195
Hand, Aphasia of the, 686
Hard Times, 254
Hay Asthma, 777
Hay Fever, 777
And its Complications, 528
Treatment for, 192
Health and Diet, 404
And Disease, Resources of Climate in, 122
Public, Asphalt and, 365
Related to Fruits, 398
Heart Disease, Cycling as a Cause of, 496
Treatment of, 351
Treatment with Massage, 47
With Trouble of Compensation, Diuretics in, 367
Heart, Hypertrophy of, during growth, 369
Murmur in Disease, 266
Heat-Wave in New York, The Late, 428
Hemorrhage, Case of Unusual Submacular, 380
Hemorrhoids, Conservative Surgery in the Treatment of, 366
External, with Reference to Treatment, 329
Treatment of, 178, 181
Hemostatic Forceps in Abdominal Work, A Suture Clamp to be Used Instead of, 85
Heredity, Maternal Impressions and, 544
Herpes, Aural, 716
Hiccough, Treatment of, 213
Hint of Value in Surgery, 16
Hints from German Writers, 307
Honey, Poisonous, 332
Hospital, a Needed, 590
Hot-air Bath in Albuminuria, 701
Human System, The Effects of Snuff on, 503
Humerus, Unprecedented Results of an Intra-Capsular Fracture of the, 406
Hydro-Galvanism of the Urethra, 250
Hydrogen-Peroxid, 319
In Diseases of the Nose, Throat and Ear, 401
Hydrosalpinx, Abdominal Section for, 353
Hydrotherapy in Tuberculosis, 339
Hydrozone in Gastric and Intestinal Disorders, 595
Hygiene of the Physician Himself, 407
Hyperidrosis, 272
Hypertrophy of the Heart During Growth, 369
Hypnotism in Pediatrics, 223
What is ? 440
Hypodermatic Use of Guaiacol, 415
Hysterectomy, Vaginal, for Epithelioma of Cervix, 353
Vaginal vs. Abdominal, a Comparison of the known advantages and Disadvantages of, 658
Hysterical Anorexia, 283

Idiosyncrasy, An Unusual, 784
Illusions, Hallucinations and Delusions, 641
Impressions, Maternal, and Heredity, 544
Increase of Cancer, The Continued, 597
Indigestion, Chronic Duodenal, 611
Inertia, Rectal, 607
Infant Feeding, The Advantages and Disadvantages of Sterilized Milk for, 568
Infantile Jaundice from Congenital Narrowing of the Common Bile-Duct, 431
Infant Mortality in Paris, 32
Infants, Digestive Disturbances in, 671
Medicinal Treatment of Intestinal Catarrhs in, 535
Infecting Principle, The Active, in Pertussis, 512
Infection, Tubercular, Causes Leading to, 722
Influenza, Nervous Sequelæ of, 465
Ingrowing Toe-Nail, Relapseless Cure of, 613
Inherited Syphilis, 256
Injections of Salts of Iron for Anemia, 433
Injuries, Accidental, 156
To the Eye, The Magnet in, 433
Injury to the Fingers, Cases of Severe, 414
Inoculation and Culture of Coli Bacillus and its Toxins, 734
Insane Diathesis, The, Illusions, Hallucinations and Delusions, 641
Insanity, Infallible Symptom of, 544
In its Relations to Crimes, etc., 414
Inspection of Food, 179
Instrument, Diagnostic, in Cases of Suspected Tuberculosis, Fever Thermometer as, 511
Insurance Purposes, Classification of Syphilitics for, 384
Interdependence of the Various Organs of the Body, 299
Intestinal Anastomosis, A New Ring for Use in, 545
And Gastric Disorders, Hydrozone in, 595
Approximation, Collapsible and Removable Rubber Bags for All Forms of, 89. Discussion, 57
Catarrhs in Infants, Medical Treatment of, 535
Suture, a New Continuous Double-Knot, 39. Discussion, 57
Worms, 320
Intestines, Perforation of, 95
Intestine, the Large, Conditions which may Simulate Organic Obstruction of, 719
In Time to Come, 208

Intra-Capsular Fracture of the Humerus, Unprecedented Results of an, 406
Intra-Ocular Growths, 151
Intraperitoneal Operation, Cases of Artificial Anus and Fecal Fistula Treated by, 97
Introductory Address, 449
Intussusception in Infants, 159
Iodates in Therapeutics, The, 46
Iodine for Trachoma, 191
Idiosyncrasy, 784
Unusual Effects of, 714
Iodoform Internally, 47
To Remove the Odor of, 367
Iritis, Unusual Form of Macular Lesion following, 380
Iron, Injections of Salts of, for Anemia, 433
Irregular Feeding, Sunday, The Penalty of, 596
Isolation of Tuberculous Patients, 487
Itch, Treatment of, 613

Jacksonian and Focal Epilepsy, Cases of, 510
Jaundice, Infantile, from Congenital Narrowing of the Common Bile-duct, Case of Fatal, 431
Joints, Sprains of, and Their Treatment, 373

Kidney, Action of Chloroform and Ether on, 32
Kidney, Congenital Absence of, 221
Known or Worth Knowing, Ten Things, 738

Large Intestine, Conditions Which May Simulate Organic Obstruction, 719
Late Fad in Medicine, 351
Late Suppers Beneficial, 168
Lavage in Stomach Diseases, 197
Law, Relation of the Physician to the, 799
Lead Poisoning, Cerebral Manifestations of, 479
Lean-meat Diet, Dangers of the, 496
Lemons in Lung Disease, 159
Lenses, Perimetric, 381
Life, The Physician's Private, 49
Lithemia or American Gout, Treatment of, 415
Lithotomy, Vaginal, 353
Liver, Cirrhosis of, and Diabetes, the Relation Between, 445
Loss of Vision, Acute, from Disease of the Ethmoid and Sphenoid Cavities, 101
Lumbago, 352
Lumbar Puncture, Serumtherapy and, 429
Lung Disease, Treatment by Lemons, 159
Lupus, Treatment with Salicyl-creosot plaster, 434

Magnet in Eye Injuries, 433
Malarial Fever, Treatment of, 638
Malaria, Origin and Geographical Distribution, 637
Some of the Sources of, 637
Sources and Cause of Irregular Forms of, 225
Manifestations, Cerebral, of Lead Poisoning, 479
Marietta Vaccine Farms, 488
Massage, Phono- and Pneumo- in Suppurative Disease of the Ear, 71
Treatment of Heart Disease with, 47
Treatment of Pleurisy with, 48
Maternal Impressions and Heredity, 544
Maxillary Bones and Their Relations with Some of the Adjacent Tissues, A Study of the, 112. Discussion, 126
Measles and Scarlet Fever, Treatment of the Nose and Throat During, 416
Measles, Remedy for the Cough in, 368
Meat Eating, Excessive, 81
Lean, Diet, Dangers of the, 496
Poisoning, 45
Powder, 145
Mechanical and Surgical Relief for the So-called Hopeless Paralytic Cripples, 491
Medical Bicyclers, 125
Men to Avoid, 95
Progress, its Helps and Hindrances, 65
Schools and Physicians in the United States, the Number of, 605
Medicines in Disguise, 249
Medico-Legal Study, a—The Pond Will Case, 646
Membership, A Practical Way to Increase the, 422
Menière's Disease Cured with Pilocarpin, 434
Menopause, Treatment of Complications, 434
Menses, Treatment of Retained, 658
Menstruation Affected by Climate, 221
Precocious, 469
Mental Disorders, 394
Mercuric Bichlorid in Cerbro-Spinal Meningitis, 224
Mercury for Tubercular Disease, 224
Metric System, A Further Consideration of, 804
Micro-organisms in Digestion, The Part Played by, 95
Microscopic Appearance of the Urinary Phosphates, Diagnosis of Pregnancy by the Changes in the, 437
Middle Age, Exercise in, 733
Migraine, Periodic, with Chronic Gastritis, 29
Milk, The Growing Practice of Sterilizing, 734
Monstrosity, An Unusual, 533
Morning Diarrhea, 214
Morphine in Surgical Cases, 413
Risk of Inducing Habituation from the Use of, 702
Move in the Right Direction, A, 691
Mucous Membranes, Anatomy and Histology of, 735
Murmurs in Valvular Disease of the Heart, 266
Muscles of Rhachitic Infants, 276
Mydriasis a Necessity to Accurate Refraction, 230
Mydriatics, Refraction Without, 70

Narcosis, Chloroform, 129
Nasal Septum, Some Remarks on Perforation of the, 425
Nasal Surgery, Three Cases of Plastic—for Saddle-shaped Nose, Removal of Entire Nose and Arched Roman Nose, 109

Nausea, Cocain Applied to the Mucous Membranes of the Nostrils a Specific for, 412
Needle, The Perfect Surgical, with Remarks on Common Defects in Needles, 583. Discussion, 635
Nerve-tissue, A Nutrient for Impaired, 707
Nervous After-Effects of a Tornado, 278
Nervous Manifestations of Diagnostic Value, 511
Sequelæ of Influenza, 465
System, Impairment of the Integrity of the, 732
System, Influence of the, in the Production of Some Skin Diseases, 468
Neuralgia, Reflex Facial, 400
Neuromata After Amputation, 635
Neuron, The, 711. Discussion, 731
Nitrate of Silver in the Pharynx, The use of, 654
Nitrogen and Oxygen, The Two-fold Spectra Exhibited by, 512
Nomenclature of Diseases, 397
Normal Climacteric, 287
Northern Medical Association, Fiftieth Anniversay of the, 667
Nose and Throat, Treatment of the, During Measles and Scarlet Fever, 416
Nose, saddle-shaped, Removal of the Entire, and Arched Roman,—Three cases of Plastic Nasal Surgery for, 109
Noses, Red, Treatment of, 384
Nose, Throat and Ear, The Use of Peroxid of Hydrogen in Diseases of the, 401
Novels, Dr. Holmes's, 663
Number of Physicians and Medical Schools in the United States, The, 605
Nutrient for Impaired Nerve-tissue, A, 707
Nux Vomica and Strychnia, 338

Obscure Traumatic Lesions of the Encephalon, 235
Obstetric Nurses for the Poor, 305
Obstretrics, 161
Obstruction, Organic, of the Large Intestine, Conditions which may Simulate, 719
Obtundent, An Efficient, 480
Occlusion of the Urethra, A Case of Congenital, 512
Odor as a Symptom of Disease, 187
One Man His Own Trumpeter, 601
One of the "Autocrat's" Experiments, 303
Operation for Chronic Diseases of the Appendages, 364
Intraperitoneal, Artificial Anus and Fecal Fistula Treated by, 97
Operations, Best Hour for, 309
Management of Cases Immediately Following, 384
On the Cervix, Schleich's Fluid in, 589
Ophthalmia Neonatorum, 270
Ophthalmoscopic Purposes, Asbestos Coverchimney, with Disc Attachment, 381
Organic Obstruction of the Large Intestine, Conditions which may Simulate, 719
Organo-therapy, Progress in, 33
Discussion, 58
Origin and History of Disease Names, 209
Ovarian Cysts, Suppuration of, 446
Ovaries, Pregnancy After Removal of, 576
Reconstructive Surgery of the Tubes and, 486
Relation to the Determination of Sex, 511
Overwork, Hot Bath in, 734
Ownership of the Prescription, 319
Oxalic Acid and Potassium Permanganate, Relative Germicidal Powers, 734
Oxygen, 56
Oxygen and Nitrogen, Two-fold Spectra Exhibited, 512
Ozone for Whooping Cough, 180
In Tuberculosis, 692

Pain, A Method of Throwing off, 383
Pains in the Lumbar Region, 206
Pain, Sudden Acute Abdominal; Its Significance, 625
Palate, Cleft, New Operation, 576
Paralysis, General, Relationship Between Chronic Renal Disease and, 63
Paralytic Cripples, Surgical and Mechanical Relief for the So-called Hopeless, 491
Parasitism, With Special Reference to the Tape-worm, 651
Paroxysmal Tachycardia, Essential—Report of Four Cases, 513
Park System of West Chicago, 607
Patents and Trade-marks, 341
Pathology and Symptomatology of Exophthalmic Goitre, the, 52
Patients, Our Self-prescribing, 505
Pediatrical Don'ts, 222
Perforation of the Intestines, 95
Of the Nasal Septum, Some Remarks on, 425
Perforations, Typhoid, Surgery for, 577
Discussion, 631
Perimeter, The Prismatic, 239
Perimetric Lenses, 381
Perimetritus in Infants, 21
Peritonitis, Acute Pelvic, From the Standpoint of the General Practitioner, 8
Purulent, With Stricture of the Rectum, 776
Pernicious Anemia, Treatment of, 169
Peroxid of Hydrogen in Diseases of the Nose, Throat, and Ear, 401
Pertussis, Active Infecting Principle, 512
Pessaries in Uterine Deviations, 272
Petroleum Poisoning, Fatal, in a Girl Two Years Old, 509
Pharmaceutical Chemistry, Harm Done by, 414
Pharmacology of Thyroiodin, A Contribution to the, 671
Pharynx, The Use of Nitrate of Silver in the, 654
Phenol Series in Tubercular and Other Diseases, 137
Phlegmasia Alba Dolens, 683
Phono- and Pneumo-massage in Suppurative Disease of the Ear, 71
Phosphates, Urinary, Diagnosis of Pregnancy by the Changes in the Microscopic Appearance of the, 437
Physical Examination of the Alimentary Organs, 257

Physician, Relation of the, to the Law, 799
Physicians and Medical Schools in the United States. The Number of, 605
Physicians, Measures to Prevent, From Contracting Contagious Diseases, 44
Physician's Private Life, The, 49
Phytolacca Decandra, Some of the Uses of, 420
Pilocarpin in Consumption and Cancer, 156
In Uremia of Bright's Disease, 431
Menières Disease, 434
Piperazin, Incompatibility of, 156
Placenta Previa, 811
Placenta Previa Centralis, 288
Retained; Placentitis, 26
Plastic Nasal Surgery, Three Cases of—For Saddle-shaped Nose, Removal of Entire Nose and Arched Roman Nose, 109
Pleurisy, Treatment of, With Massage, 48
Pneumonia, Acute, Local Application of Cold in, 767
Pneumo-peritoneum, 337
Pneumo-thorax, A New Method of Treating, 508
Poisoning, Acetanilid, 686
Carbolic Acid, 303
Carbon Disulfid, Chronic, 575
Duboisin, A Case of, 11
Discussion, 30
Lead, Cerebral Manifestations of, 479
Meat, 45
Petroleum, 509
Phosphorus, 181
Poisonous fish, 158
Honey, 332
Polyarthritis, Scarlatinal, 384
Possible Advances in Anesthesia, 255
Posterior Urethritis, A Test for, 223
Post-partum Hemorrhage, Treatment of, 147
Potassium Bromid in Epilepsy, 448
Iodid, Severe Stomatitis Following, 37
Discussion, 60
Nitrate for Burns, 224
Permanganate and Oxalic Acid, The Relative Germicidal Powers of, 734
Permanganate in Phosphorous Poisoning, 181
Potts' Disease of the Spine, 185
Practitioner, The General, 612
Precocious Menstruation, A Case of 469
Predicting Sex, Chinese Methods of, 382
Pregnancy after Removal of Ovaries, 576
Diagnosis of, by the Changes in the Microscopic Appearance of the Urinary Phosphates, 437
Early Diagnosis of, 554
Ectopic, Review of an Editorial on, 747
Extra-uterine, with Fetus Retained for Seven Years, 537
Prescription Ownership of the, 319
Prismatic, Perimeter, 239
Privileged Communications, 20
Professional Advertising, 531
Complaints, 274
Profession and the State, Suggestions as to Mutual Relations, 376
Progress, Medical, its Helps and Hindrances, 65
Prolapse, Uterine, Rectocele and Cystocele, Medical Treatment of, 369
Prophylactic vaccination, 326
Prostatic abscess, A Case of, 390. Discussion, 413
Pruritus Treated by Potassium permanganate, 339
Vulvæ, 701
Psychologic Consequences of Suppressed Menstruation, 304
Public Health and Street Cars, 246
and Asphalt, 365
Puerperal Eclampsia, 639
Eclampsia, Report on Cases of, 497. Discussion, 508
Eclampsia, Veratrum Viride in, 502
Hyper-involution, Non-occurrence of, 607
Pulmonary Consumption, The Action of Strychnin in, in Relation to the Neurotic Origin of this Disease, 53
Puncture, Lumbar, Serumtherapy and, 429
Purulent Ophthalmia, 271
"Puss in the Pelvis," 607

Quackery, Decline of, 689
Qualifications for Medical Practice in Turkey, 192
Quinin, Hypodermatic Injections of, 146

Race Degeneracy, 156
Rectal Fistulæ, Special Forms of, 360
Rectal Inertia, 607
Rectocele, Cystocele, and Uterine Prolapse, Medicinal Treatment of, 369
Recto-vaginal Anastomosis and Complete Extirpation of the Vermiform Appendix, 220. Discussion.
Rectum, Stricture of the, 297
Stricture of, Left Inguinal Colotomy for, 353
Stricture of, with Purulent Peritonitis, 776
Reconstructive Surgery of the Tubes and Ovaries, 486
Recovery as Related to Therapeutics, Disease and, 661
Reflex Facial Neuralgia, 400
Refraction without Mydriatics, 70
Relation of Fruits to Health, 398
Physician to the Law, 799
Weather to Fatality in Surgical Operations, 268
Relative Sexual Purity, 123
Relief, Surgical and Mechanical, for the so-called Hopeless Paralytic Cripples, 491
Remedy for Cough in Measles, A, 368
Remedy for Toothache, 576
Removal of Entire Nose, Saddle-shaped Nose, and Arched Roman Nose—Three Cases of Plastic Nasal Surgery for, 109
Renal Disease, The Relationship between Chronic, and General Paralysis, 63
Renal Sarcoma in an Infant Nine Months Old. Operation. Recovery, 609
Resection, Urethral, Good Results Following, 445
Retractor, abdominal, A New, 39. Discussion, 57

Retrodisplacements of the Uterus, Treatment of 460. Discussion, 474
Rhachitic Infants, The Muscles in, 276
Rheumatic Diathesis, 278
Rheumatism, Salicylate Methyl in, 433
Roentgen Ray, 733
Action of, Producing Severe Dermatitis, 576
Apparatus, Exhibition of. Discussion, 606
at the Polyclinic Hospital, Report of work with, 676. Discussion, 694
Rubella Epidemic, 158
Rupture of the Vagina during Labor, 221
Rush Monument Fund, Subscriptions to the, 702

Saddle-shaped Nose, Removal of Entire Nose and Arched Roman Nose. Three cases of Plastic Nasal Surgery, 109
Salicylate Methyl in Rheumatism, 433
Salicyl-creosot Plaster, Treatment of Lupus with, 434
Salicylic Acid, Use of, as a Food Preservative, 575
Salt Baths for Febrile Diseases of Infancy, 340
Salts of Iron for Anemia, Injections of, 433
Sandbath in Therapeusis, 156
Sarcoma, Renal, in an Infant Nine Months Old. Operation. Recovery, 609
Savage Credulity, a Survival of, 467
Scabies, Treatment of, 613
Scarlatinal Polyarthritis, 384
Scarlet Fever and Measles, Treatment of the Nose and Throat during, 416
Schleich's Fluid in Operations on the Cervix, 589
School Hours too Long for the Best Good of Children, 575
Sciatica Treated with Scotch Douches, 340
Scoliosis and Allied Conditions, Eight Primary Movements of the Normal Spine as a Basis for Gymnastics in the Treatment of, 673; discussion, 693
Scrofula, Treatment of, 368
Scurvy in Bottle-fed Babies, 179
Seasickness, Henry Ward Beecher on, 391
its Cause and Relief, 602
Secondary Celiotomy, 262
Second Pan-American Medical Congress, Special Regulations of, 63
Section, Abdominal, by a Cow's Horn, 501
Abdominal, for hydrosalpinx, 353
Self-retaining Tenacula, 39
Senile and Virginal Endometritis, 62, 142
Septic Infection in Puerperium, 246
Septum, Nasal, Remarks on Perforation, 425
Sequelæ, Nervous, of Influenza, 465
Serums, Anti-diphtheritic and Anti-streptococcic, Nature, Method of Production and Application, 779
Serum Test for Typhoid Fever, 718
Serumtherapy and Lumbar Puncture, 429
Serum Treatment in Private Practice, 149
Sex, Chinese Methods of Predicting, 382
Sex, Determination of, The Relation that the Ovaries Bear to the, 511
Shakespeare, Modern Slang in, 692
Sigmoid Flexure, Importance of Making Examinations, 623
Simulation of Death, 221
Skeleton of a Eunuch, 269
Skimmed and Separator Milk, 724
Skin Diseases, Influence of the Nervous System in the Production of Some, 468
Skin Diseases, Necessity of Strict Dieting in, 144
Skin-Grafting, a New Method of, Epithelial Sowing, 713
Sleep, Anesthesia During, 668
Chloroform Anesthesia During, 554
Sleeplessness, 280
Snake-Bite, Death from, 415
Snuff, Effects of, on the Human System, 503

Society Reports.

Allegheny County Medical Society, 507
Buffalo Academy of Medicine, 606
College of Physicians and Surgeons, Section on Opthalmology, 379
Delaware State Medical Society, 636
Montgomery County Medical Society, 91
Philadelphia County Medical, 30, 57, 126, 188, 219, 413, 474, 538, 635, 693, 726, 790

Sodium Hyposulphite, Local Treatment of Diphtheria with, 478
Soft Rubber Sound an Aid in Gastric Diagnosis, 255
Sources and Cause of Irregular Forms of Malaria, 225
Specific Urethritis, Two Cases of, in Boys, 574
Specimens, Microscopic, 381
Spectra Exhibited by Oxygen and Nitrogen, The Two-fold, 512
Sphenoid and Ethmoid Cavities, a Case of Acute Loss of Vision from Disease of the, 101. Discussion, 128
Spinal Cord Affections, in Diabetes Mellitus, 445
Spine, Potts' Disease, 185
Chronic Inflammation of, 810
Spitting in Public Places, 563
Sprains of Joints and their Treatment, 373
Sputum, Examination of, 95
Stammering Due to Adenoid Vegetations, 304
Staphyloma, Ciliary, and Excavation of the Optic Disc Following Traumatic Cataract, 380
State Examining Boards and Chartered Medical Institutions, 22
Sterility Due to Gonorrhea, 190
Sterilized Milk for Infant Feeding, the Advantages and Disadvantages of the Use of, 568
The Growing Practice of, 734
Stimulants, Alcoholic, in the Treatment of Diseases, 457
Alcoholic, in Typhoid Fever, the Use of, 385
Stomach Digestion, 494. Discussion, 507
Dilatation and Dyspepsia Among Arthritic People, 368
Dyspepsia with Dilatation of the, Among Arthritic People, 368

Practical Points in the Treatment of the Commoner Diseases, 417
Stomatitis Following Potassium Iodid, 37. Discussion, 60
Strabismus, Convergent, of the Left Eye, 380
Straight Muscles, Tests for the Insufficiency of, 150
Strange Freak, 192
Street Cars and Public Health, 246
Strength of Crude Cannabis Indica, 351
Stricture of the Rectum, 297
Left Inguinal Colotomy for, 353
With Purulent Peritonitis, 776
Strychnin in Pulmonary Consumption, The Action of, in Relation to the Neurotic Origin of this Disease, 53
Sublimate, Corrosive, in Whooping-Cough, 367
Sugar, Ecbolic Action of, 574
Formation in the Liver, 217
In the Urine, Test for, 160
Sulphurous Acid Gas, the Disinfection of Rooms by, 565
Sunstrokes, Treatment of, 48
Suppressed Menstruation, Psychological Consequences of, 304
Suppuration, Gangrenous, of Fibromata, Independent of the Uterine Cavity, 446
Of Ovarian Cysts, 446
Suppurative Disease of the Ear, Phono- and Pneumo-Massage in, 71
Surgery, a Cure for Cancer, Is? 430
Cocain in, 448
Conservative, in the Treatment of Hemorrhoids, 366
Damages in Abdominal, 223
Digestive Ferments with Especial Reference to their Use in, 481
For Typhoid Perforations, 577. Discussion, 631
Hot Water in, 810
In the Swamps—Vaginal Lithotomy—Abdominal Section for Hydrosalpinx—Left Inguinal Colotomy for Stricture of Rectum—Vaginal Hysterectomy for Epithelioma of Cervix, 353
Minor, of the Face, 382
Reconstructive, of the Tubes and Ovaries, 486
Three Cases of Plastic Nasal—for Saddle-shaped Nose, Removal of Entire Nose, and Arched Roman Nose, 109
Surgical and Mechanical Relief for the So-called Hopeless, Paralytic Cripples, 491
Diseases, Ancestry as a Factor in, 606
Needle, the Perfect; with Remarks on Common Defects in Needles, 583. Discussion, 635
Status of the Bicycle, The, 617
Treatment of Fibroids, The, 86
Suspensio Uteri, 745
Suture Clamp to be Used Instead of Hemostatic Forceps in Abdominal Work, 85
Intestinal, a New Continuous Double-Knot, 39. Discussion, 57
Of Uterus in Cesarean Section versus Total Extirpation, 44
Suturing Abdominal Wounds Without Buried Sutures, 85
Symphysiotomy, A New Method, 25
Symptomatology and Pathology of Exophthalmic Goitre, The, 52
Symptom, Odor as a, 187
Symptoms of Cerebral Syphilis, the, 701
Unusual, Connected with Teething, 41
Syphilis, Cerebral, The Symptoms of, 701
Cerebro-Spinal, 775
Inherited, 256
Treated with Hypodermatic Injections, 213
Syphilitics, Classification of, for Insurance Purposes, 384

Tachycardia, Essential Paroxysmal, 513. Discussion, 540
Tannin for Diarrhea, 182
Tape-Worm, a General Consideration of Parasitism, with Special Reference to the, 651
Teething, Unusual Symptoms Connected with, 41
Teeth, Neglect of, in Country Districts, 506
Temperature in Diagnosis of Tuberculosis, 511
Tenacula, Self-retaining, 39
Ten Things Either Known or Worth Knowing, 738
Test for Sugar in the Urine, 160
Testicular Fluid Injections, a Clinical Report, 289
Testimony, The Giving of, by Physicians, 448
Tests for Insufficiency of the Straight Muscles, 150
Tetanus Neonatorum, 306
The Law of the Wheel, 23
The Old Days and the New, 12
The Passing of the Ovary, 244
Therapeutics, Disease and Recovery as Related to, 661
Iodates in, 46
Uses of Guaiacol, 140, 202
Thermometer, Fever, as a Diagnostic Instrument in Cases of Suspected Tuberculosis, 511
Thermometers, Dirty, 469
Thiosinamine for Inoperable Tumors and Cicatricial Contractures, 479
Threatening and Unavoidable Abortion, 181
Throat and Nose, Treatment of the, During Measles and Scarlet Fever, 416
Throat, Ear and Nose, The Use of Peroxid of Hydrogen in Diseases of the, 401
Thyroid Gland in Treatment of Uterine Fibroids, 145
Thyroiodin, A Contribution to the Pharmacology of, 671
Tobacco and the Sight, 237
Toe-nail, Relapseless Cure of Ingrowing, 613
Tongue, A White, Indicates Febrile Disturbance, 95
Tonsillitis in Rheumatic Fever, 191
Toothache, Remedy for, 576
Toxic Effects, Profound, from the Drinking of Large Amounts of Strong Coffee, 549. Discussion, 635

Toxins, The Culture and Inoculation of Coli Bacillus and its, 734
Transmission of Diabetes, Diabetes Mellitus in Married People and the, 444
Traumatic Enopthalmus, 379
Treatment of Alcoholism, No. 1, 321, No. 2, 703
Treatment of Disease, Is Alcohol an Essential in the, 78
of Diseases, Alcoholic Stimulants in the, 457
of Pneumonia, Acute, Local Applications of Cold, 767
Acne Rosacea, 47
Alcoholism, 703
Alopecia Areata, 222
Anemia, 367
Asthma, 182
Boils on Nose, 157
Broncho-Pneumonia, 55
Burns, 224
By the Phenol Series, Tuberculous Disease, 137
Cancer, 156
Cancer, Uterine, 700
Carbuncle, 672
Carcinoma, 157
Cerebro-spinal Meningitis, 224
Chilblains, 46
Chloroform illness, 218
Chlorosis, 214
Cirrhosis Hepatica, 182
Conjunctivitis, 368
Consumption, 156
Cough and its Associated Conditions, 416
Crime, 714
Diarrhea, 182, 214
Diphtheria, 192, 478, 607
Dysphagia in Tuberculosis of the Larynx, 339
Epilepsy, 19, 191, 415
Fibroids, 86
Non-Operable, of Fissura Ani, 214
Fissure of the Breast, 271
Fistula in Ano, 168
Gleet, 51
Gout, 340, 479, 671
Hay Fever, 192,
Heart Disease, 41, 351
Hemorrhage, Post-Partum, 147
Hemorrhages, Uterine, 339
Hemorrhoids, 178, 181, 329, 366
Hiccough, 213
Intestinal Catarrhs in Infants, 535
Itch, 613
Lithemia, 415
Lupus, 434
Menière's Disease, 434
Menopause Complications, 434
Metritis, Blennorrhagic 146
Nose and Throat in Measles and Scarlet Fever. 416
Ophthalmia, 271
Pernicious Anemia, 169
Phosphorus Poisoning, 181
Pleurisy, 48
Pneumonia, 156 767
Pneumothorax, 508
Retained Menses, 658
Retrodisplacements of the Uterus, 460. Discussion, 474
Sciatica, 340
Scrofula, 368
Septic Infection in Puerperal Cases, 246
Serum, in Private Practice, 148
Sprains of Joints and Their, 373
Stammering, 304
Stomach Diseases, 417
Sunstrokes, 48
Syphilis, 213
Trachoma, 191
Tuberculosis, 137, 224
Typhoid Fever, 574
Urethritis, 272
Uterine Fibroids, 145
Uterine Prolapse, Rectocele and Cystocele, 369
Whooping-Cough, 180
Tubercular, Encapsuled, Tumor of the Brain; Cessation of Unilateral Convulsions Caused by the Growth. 439
Tubercular Infection, Causes Leading to, 722
Tuberculosis and Other Diseases Treated by the Phenol Series, 137
By Ingestion, 598
Chief Predisposing Cause, 264
Diagnosis of, From Morphology of the Blood, 751
Hydrotherapy in, 339
Prevention of, 659
Suspected, the Fever Thermometer as a Diagnostic Instrument in Cases of, 511
Temperature in Diagnosis of, 511
Use of Ozone in, 692
Tuberculous Patients, Isolation, 487
Tubes and Ovaries, Reconstructive Surgery, 486
Tumors, Inoperable, and Cicatricial Contractures, Thiosinamine for, 479
Tumor of the Brain, Encapsuled Tubercular; Cessation of Unilateral Convulsions Caused by Growth, 439
Typhoid Fever, Apyrexial, 352
Fever, Calomel Treatment, 574
Fever, Serum Test as a Method of Diagnosis, 718
Fever, Three Cases of, in one Family, 709
Fever, Use of Alcoholic Stimulants, 385
Perforations, Surgery for, 577. Discussion, 631

Ulcer of the Stomach with Hemorrhage, 213
Urea for Cirrhosis Hepatica, 182
Uremia of Bright's Disease, Pilocarpin in, 431
Urethra, Congenital Occlusion of the, 512
Urethral Resection, Good Results Following, 445
Urethritis, Specific, Two Cases of in Boys, 574
Treatment of, 272
Urinary Phosphates, Diagnosis of Pregnancy by Changes in Microscopic Appearance, 437
Urine, Method of Testing for Albumin, 576
Routine Examination, 416
Use for Patent Medicine Almanacs, 164
Use of the word Doctor, The, 405

Uterine Cancer, Diagnosis of, 448
Cavity, Gangrenous Suppuration of Fibromata, Independent of the, 446
Fibroids Treated With Thyroid Gland, 145
Hemorrhages, Treatment of, 339
Prolapse, Rectocele and Cystocele, Medical Treatment of, 369
Uterus, Multiple Fibroid of the, 478
Suture of, In Cesarean Section Versus Total Extirpation, 44
Treatment of Cancer, 700
Treatment of Retrodisplacements, 460
Discussion, 474
When and How to Curette, 312

Vaccination, 326
Vaccine Farms, The Marietta, 488
Vaginal Hysterectomy, 807
Vaginal Hysterectomy for Epithelioma of Cervix, 353
Lithotomy, 353
Versus Abdominal Hysterectomy, Comparison of Known Advantages and Disadvantages, 658
Vegetable Dietary, Some Additions to our, 619
Veratum Viride in Puerperal Eclampsia, 502
Vesicants in Epilepsy, 191
Vinegar in Carbolic Acid Burns, 511
Virginal and Senile Endometritis, 62, 142
Vision, A Case of Acute Loss of, From Disease of the Ethmoid and Sphenoid Cavities, 101
Visiting List of a Physician in Evidence of Claims, 281
Vivisection, 183
Volvulus and Forced Enemata, 181

Warts, To Remove, 69
Water, Hot, Use of in Surgery, 810
Water Supplies, Public, The Control and Supervision of, by Sanitary Authorities, 660
Weather and Fatality in Surgical Operations, 268
Weight of Children During the First Two Weeks of Life, Variations in the, 616
Wheel, The Law of the, 23
Whooping Cough, Corrosive Sublimate in, 367
Will Case, The Pond—a Medico-legal Study, 646
Wound in Celiotomy, Dressing for the, 383
Wounds, Abdominal, Suturing Without Buried Sutures, 85

Zinc Chlorid, Treatment of Carbuncle, 672

4395

BOSTON MEDICAL LIBRARY
FEB 7 1898
THE

MEDICAL AND SURGICAL REPORTER.

No. 2052. SATURDAY, JULY 4, 1896. VOL. LXXV—No. 1

ORIGINAL ARTICLES.

SOME NOTES ON THE CORONARY ARTERIES.*

GEORGE DOCH, M.D.,† ANN ARBOR, MICH.

One hundred years ago all of cardiac pathology was chaos. Corvisart had not revived the discovery of Auenbrugger, and enriched percussion with the results of his own indefatigable observations at the bedside and on the post-mortem table. Laennec had not, accidentally and from his keen sense of decorum, made the immortal discovery that soon revolutionized medical diagnosis. As Corvisart says, many so-called physicians of that day "looked on attempts at an exact diagnosis in heart-disease as useless, because those diseases are incurable." With neat sarcasm he says, in reference to such men, that "art is short, experience silent, and judgment weak."

Yet, post-mortem observations on the diseases of the coronary arteries, and of the heart-muscle in consequence, are among the oldest in medical literature. Harvey himself (Second Disquisition addressed to Riolan, Jr.) has recorded a case that must have been one of sclerosis of a coronary artery. "Sir Robert Duray, when he reached about the middle period of life, made more frequent complaints of a certain distressing pain in the chest, especially in the night season; so that, dreading at one time syncope, at another suffocation in his attacks, he led an unquiet and anxious life. He, by-and-by, became cachectic and dropsical, and, finally, grievously distressed. He died in one of his paroxysms. In the body we found the wall of the left ventricle ruptured, having a rent in it of a size sufficient to admit any one of my fingers, although the wall itself appeared sufficiently thick and strong." The explanation Harvey gave, that "the laceration had apparently been caused by an impediment to the passage of the blood from the left ventricle into the arteries," is evidently insufficient, but points strongly to aortic disease in which the coronaries are often affected.

At the end of the last century a few, at least, of the choicer spirits of medicine had a knowledge of myocardial disease by no means inconsiderable, and far in advance of their knowledge of

*Read, with demonstration of specimens, before the Alumni Association of the Medical Department of the University of Buffalo, May 5, 1896.

†Professor of Theory and Practice of Medicine, University of Michigan.

valvular disease. The most illustrious example of this is furnished by the oft-cited case of John Hunter. The acute Jenner correctly diagnosed the calcification of the coronary arteries and referred to them the anginal attacks of his friend and teacher. Parry, too, in several cases was able to make similar predictions, verified post-mortem. On the whole, such cases were not common enough to soon make an impression on the profession as a whole, and it is not surprising that later writers allowed the subject to escape them.

Soon, too, the epoch-making discovery of immediate auscultation engrossed the attention and diverted the minds of physicians, especially toward the examination of the valves of the heart, and away from the muscle itself. The reason for this is not far to seek. It depends on a phase of human nature which shows itself in connection with every new diagnostic method. Auscultation seemed at first to offer a short cut to treatment. The study of physical signs was but too likely to lead to a physical conception of cardiac disease, and the more recondite physiological processes were neglected. To be sure there were exceptions, even during the worst period. Stokes insisted on the importance of a thorough knowledge of the heart-muscle in the treatment of its diseases, but it was not until long after him that the truth was generally received. This came about in various ways. For one reason, it seemed to an increasing number that the sounds and murmurs of the heart did not tell enough. The study of pathological anatomy in more exact methods than were available in the days of Harvey and Morgagni had a rich harvest, and the work of Weigert, Huber and Ziegler led the way for a host of others. The importance of the coronary arteries as a cause of sudden death, examples of which were published in considerable numbers, became generally known, and this led in time to an interest in other consequences of disease in those vessels. From an early period physiologists and pathologists investigated the subject experimentally, with great advantage. It is especially from the work of Dr. W. T. Porter, who was able to bring to the subject not only a clear conception of the problems involved, but also great technical skill, that some of the most intricate points have been cleared up, and the peculiarities of various cases explained. (W. T. Porter, *The Journal of Physiology*, 1893, xv., pp. 121–138. *The Journal of Experimental Medicine*, vol. 1, p. 46.)

Nor have clinicians been idle. The classical paper of Leyden (*Zeitschrift für Klin. Med.*, Bd. vii.) and those of Nothnagel, Riegel and Fränkel, and the extensive work of Huchard, have done much to further a knowledge of the subject and led to countless contributions of value. Many text-books give an adequate summary of the matter, but others appear not to recognize its importance.

That recognition in general has been slow is partly due, no doubt, to a peculiarity of the disease or diseases in question. From the nature of the cases, hospital physicians see but a part of their course, and that not always the most important for a successful diagnosis. It must, therefore, remain for those physicians in general practice who have an oversight of patients for long periods, and who at the same time have the sort of scientific zeal that influenced a Jenner to give the final touches to the pictures of coronary disease.

It is not necessary to enter into details concerning the anatomy of the coronary arteries. It is enough to recall certain cardinal features. Various parts of the heart-muscle are nourished by branches of the coronaries, the distribution of which is fairly regular. The left coronary supplies the greater part of the left ventricle, and is especially important because it is found diseased more frequently than the right. The occasional occurrence of supplementary coronary arteries, as they are called, really anomalous origins of branches from the sinuses of valsalva, are of no clinical importance.

The question as to the anastomosis of the two coronary arteries has led to much controversy. As a rule, there is no arterial anastomosis, though rare cases may have been observed in which these actually existed. The capillary anastomosis, however, may become enlarged as the result of disease, a fact of great importance in certain cases. The

rapidity with which an obstruction forms is, therefore, decisive in regard to the question of collateral circulation.

The most frequent disease affecting the coronary arteries is arterio-sclerosis in its various forms. This may be part of a wide-spread arterial disease, or it may be localized in the coronaries, or in the beginning of the aorta, around the orifices of the former.

The causes of the great frequency of coronary sclerosis have been much discussed. In addition to causes operating on other vessels, it may be that the stress in the arteries of the heart, secondarily their peculiarities of structure, especially the unusually thick adventitia, have a determining influence.

Changes of slight degree are common in the coronaries of persons beyond middle life without apparently producing symptoms, and even without greatly affecting the heart-muscle. In others, fatty degeneration or fibroid change occur in varying degree, and often produce symptoms of considerable importance. In others the results are more immediate and striking. Instead of attempting to describe them formally, I shall recite some case-histories illustrating various forms.

Case 1. Angina Pectoris; sudden death in the first paroxysm. Sclerosis of the coronary arteries; rupture of an atheromatous focus in the descending branch of the left coronary artery; multiple embolism of the heart.

A negro drayman, of fifty, a man of unusually powerful physique, with a history of perfect health, was seized in the night with pain in the heart-region and a sense of suffocation. He was seen by Dr. H. A. West, who found no special symptoms other than those mentioned. Morphine temporarily relieved the pain, but in about two hours after the onset the patient suddenly died. I made an autopsy six hours after death, and, finding no marked evidences of disease in any other organ, took the heart unopened to my laboratory for careful examination. This was made by cutting the organ in slices, parallel to the auriculo-ventricular septum, and examining the vessels in each slice separately. This proved to be a useful method, though destroying the heart as a specimen.

The heart was slightly enlarged, both ventricles dilated, only moderately hypertrophied. The chambers contained a small quantity of uncoagulated blood. The muscle was soft, dry, pale-brown, with small yellow spots of pin-point size. The left papillary muscles were fibroid and calcified at the tips. All the valves normal. The aorta, smooth as far as the arch, was atheromatous and calcified from there to the bifurcation. The branches of the aorta were all free from atheroma except the coronaries. The latter were affected in various degrees in their whole extent, being calcified, partially occluded or dilated. In the descending branch of the left, just below its origin, was a ruptured atheromatous abscess, eight mm. long, extending two-thirds around the dilated artery. The edges were overhanging, the flow uneven and ragged, presenting all the appearances of a recent rupture. This proved to be the case. On opening up the sections of the branches below the rupture they were found to contain a little blood with characteristic atheromatous material, such as cholesterin plates, blood-pigment in crystals and masses, larger cells with highly refracting granules and amorphous and granular debris. The left lateral branch of the artery just below the rupture was obstructed by an atheromatous nodule in its wall, but all the other branches contained debris as far as they could be traced.

Fresh frozen sections of the heart showed fibroid degeneration, with many small areas of fatty and albuminous degeneration. Hardened sections showed: endarteritis nodosa; extreme congestion of capillaries; brown atrophy of muscle cells; swelling of nuclei; fibroid degeneration; fragmentation of the heart-muscle. In many places the spaces between the ends of the ruptured fibres are filled with blood, making it highly probable that the process was ante-mortem.

This case requires little comment. Nothwithstanding the patient's statement as to his previous health we may be confident that an examination of the heart under ordinary conditions would have revealed evidences of myocardial disease. The cause of the embolism was a rare one. Most cases of coronary embolism are due to bits of thrombi or vegetations from the aorta or heart. In the case of the

sculptor Thorwaldsen, however, who died suddenly in the theater, the condition was precisely the same (*Virchow's Archiv.* Bd. 25, p. 315).

Such cases are quite in accord with the results of experiments on animals, viz.: that the *sudden* closure of a large artery, almost always that of several smaller ones, usually causes total arrest of the heart's action and death within a comparatively short time. Such closure is most frequently due to a thrombus, as occurred in

Case II. Angina pectoris; sudden death in an attack; thrombus, an atheromatous right coronary artery.

Mrs. M., aged sixty; laparotomy and removal of both ovaries for septic disease. Examination before the operation showed no evidences of heart disease, and the patient gave no history of cardiac symptoms. Five days after the operation, when healing seemed to be progressing nicely, the patient complained of a sudden pain in the heart-region, shooting into the left shoulder and arm, with a feeling of suffocation but without objective dyspnœa. She then recalled similar attacks, not so severe, at long intervals. Inhalations of amyl nitrite and an injection of morphine gave only slight relief, and the patient died soon after the attack began.

On examination I found the heart large, weighing eleven and three-quarter ounces, with an excess of sub-epicardial fat. (The patient was not fat). Both ventricles contained ante-mortem clots. The endocardium and valves were normal. The wall of the left ventricle measured twenty mm. at the middle, the muscle was brown, with numerous fibroid patches, especially in the bases and tips of the papillary muscles. The aorta showed numerous large and thick atheromatous plaques. The left coronary artery was atheromatous, the lumen contracted in various parts, but not markedly obstructed in any of the larger branches. The right coronary was also atheromatous. Two cm. below the orifice the lumen suddenly widened from eight to thirteen mm. in circumference, the dilated part being thirty-five mm. long. The walls there were rough, thin, calcerous. Adherent to the wall was a mixed white and red thrombus.

This was, doubtless, the cause of the sudden death, and the case is interesting chiefly because the right coronary is rarely the seat of a fatal complication. Here, again, it would seem that a critical examination of the heart during life would have revealed the hypertrophy, as well as some alteration in the sounds or the pulse sufficient to make a diagnosis of myocardial degeneration. Such findings are not grounds for preventing an operation when it is needed, and the fatal termination must be looked on as purely accidental.

Very different from such cases are those in which the closure is slowly brought about, though affecting even a main trunk.

Case III. Aortic valvular disease with loss of compensation; dilatation of the heart; anginose attacks; sudden death; aortic stenosis and insufficiency; aortic atheroma; occlusion of the right coronary artery.

F. C., aged thirty-six. Patient has a history of atypical sore on the penis without secondary symptoms; no specific treatment. Later married and wife had unhealthy child. Used alcohol in moderation. No history of acute illness indicating possible relation with present disease. In the fall of 1893 noticed sharp pain under the sternum radiating to the back and down the left arm and into the left hand. This recurred at intervals and had now been constant for six weeks. The pain is worse after exertion and while lying down, especially when lying on the left side. In the latter position the pain is associated with a feeling of suffocation. There is no history of dyspnœa, cyanosis or ascites.

Condition, August 2, 1894: Slender frame; musculation poor, panniculus scanty; skin pale and sallow, no cyanosis, no œdema. Apex-beat visible in the fifth interspace one inch outside the left nipple line; the impulse is heaving; there is no thrill. Pressure over the heart is not painful. Absolute heart dullness begins on the upper border of the fourth rib, extending to the fifth interspace in the nipple line, and to the right parasternal line in the fifth interspace. The first sound at the apex is inaudible; no murmur can be heard there. At the aortic cartilage there is a short, soft systolic murmur, followed at

once by a louder and longer blowing murmur. Both murmurs are well heard over the carotids and the diastolic murmur can be heard over the base, down to the left nipple and along the sternum.

Radial pulse 120 regular, moderately full but very quick (water hammer). There is slight pulsation of the peripheral arteries. Liver dullness, organ not enlarged; palpation and percussion of abdomen negative. Urine (twenty-four hours) 500 ccm.; sp. g. 1029; reddish-yellow, clear; no albumin, no sugar. The scanty sediment contains a few leucocytes and cylindroids.

Under rest in bed the heart's action became slower and a systolic murmur could be detected at the apex, distinct from the former one, transmitted to the axilla. The pain in the cardiac region continued. It radiated to the back and shoulders; it was not accompanied with subjective or objective dyspnœa. Later the pulse became more frequent and smaller. Orthopnœa came on. Digitalis had no effect on this. Late in the evening of Aug. 4, two days after admission, the patient complained of nausea and pain in the heart, and soon after died.

The autopsy showed yellowish-red subcutaneous fat; slight excess of fluid in all the serum cavities. Lungs congested; no œdema. The heart extended from the right parasternal to the left anterior axillary line. All the cavities were dilated, the right auricle and left ventricle being especially affected. The left ventricle was globular, encroaching on the right, ten cm. long and nine cm. wide. The wall just below the ring was thirteen mm. thick; at the apex seven mm. The muscle was pale, soft; showed a few small fibroid areas. The papillary muscles were long and flattened; showed exquisite fatty degeneration and numerous long and narrow fibroid patches. The mitral orifice permitted three fingers to enter readily. The flaps were normal. The walls of the right ventricle measured 4.5 mm. at the upper part; two mm. at the apex. The tricuspid admitted three fingers. The pulmonary artery was ten cm. in circumference just above the valves; nine below the division.

The aorta was eight cm. in circumference. The valves were thick, rigid, and retracted close to the wall. From the insertion of the valves to a distance of five cm. above the surface was wrinkled, and covered with irregular sclerotic plaques.

The right coronary artery was completely occluded at the orifice, being involved in the atheromatous process. The orifice of the left coronary was narrow but free. It was readily opened by fine probe-pointed scissors as far as two cm. beyond the apex when it ended in four small branches. Just at this point the artery had a circumference of five mm. The branches were from .5 to 1 mm. in diameter and emptied after from two to five mm. into the end of the right coronary artery. All the branches of the coronaries were smooth, without atheroma. The spleen, liver, kidneys, and intestines showed cyanosis of moderate degree.

The most important feature of this case is the coronary anastomosis after gradual occlusion. This must be a not infrequent process, but the anastomosis is usually not found. I have seen two other cases with chronic occlusion of one coronary. In one no gross anastomosis could be seen, and there was no opportunity for a careful examination. In the other the heart was so decomposed that a satisfactory examination was impossible, but it could at least be said that no large vessels were concerned. In the former case the clinical history was unknown. In the latter, sudden death occurred in the case of a negro woman of twenty-six years, while turning over in bed. There was a history of "asthma" and dropsy for six months. The aorta and its valves were extremely atheromatous and calcified, the valves being quite obliterated. The orifices of the coronaries could not be seen. The right was found by passing a probe from below, but the orifice of the left was found to be totally occluded.

The cause of the anginose pain in Case III may have been the coronary disease, but was more probably due, as was supposed during life, to the aortic disease and, toward the end, acute dilatation. That the disease was syphilitic can hardly be doubted.

When acute occlusion affects one small branch, or even a number of small branches, without involving enough to cause sud-

den death by anemia of the heart-muscle, local anemia or infarction occurs, with the condition of myomalacia, as Ziegler called it. This is a not uncommon accident and I could cite a number of examples, but in most of them, in fact in all in which a diagnosis was made during life, the symptoms were complicated by disease of the kidneys, lungs or brain. One case, however, was simpler and worth relating.

CASE IV. Angina pectoris; dyspnœa; double hydrothorax; sudden death; atheroma and obstruction of coronaries; infarction of the heart.

Mr. B., lumber dealer, sixty-four years old, a man of large frame, was never sick until about three months before death. He then began to notice shortness of breath, especially when walking up hill. A week before death severe pain in the heart-region began. There was no clear history of radiating pain. Soon after this, in rising suddenly, the patient fainted, became pulseless and very dyspnoic. Dr. Breakey was called in and made a diagnosis of angina pectoris, prescribing nitro-glycerine and strophanthus. The symptoms continued and I saw the patient a week later. He was then lying propped up in bed, but anxious to get out. There was slight cyanosis; breathing rapid and superficial, pulse eighty, small, quick; no atheroma of the peripheral arteries.

The apex-beat could not be felt. The heart dullness extended from the fourth rib to the fifth interspace, and from the left edge of the sternum to beyond the left parasternal line. As the lungs gave a very tympanitic note, it was supposed that the heart dullness might be marked by overdistended lungs. The sounds over the heart were faint but clear. Over the apex-region a loud double friction sound was audible. There was a small area of movable dullness in each side, which had been present for two or three days. Loud moist râles obscured the respiratory murmur. The abdomen was considerably disturbed, the tongue coated; constipation had existed for some time. Reported examinations of the urine were negative.

The diagnosis was myomalacia following coronary sclerosis, with secondary pericarditis. This was based on the history of increasing dyspnœa and heart pain, without evidence of disease in lungs or kidneys, or other (valvular) disease of the heart, the history of the acute attack indicating infarction, and the acute onset of pericarditis without other cause.

The same day, against explicit orders and explanations of the danger from exertion of any kind, the patient insisted on being helped out of bed to defecate. While straining at stool, he suddenly expired.

Autopsy showed about a pint of clear fluid in both pleural cavities, congestion and œdema of the lungs. The heart was enlarged, reaching the left nipple line. The pericardium was adherent over the apex by a thin, greenish fibrinous exudate, easily separated. The pericardium was uniformly reddened and rough.

The surface of the left ventricle, beneath the thin exudate, was mottled red and green in irregular spots. Both ventricles were dilated, the left being 10.3 cm. long, its wall 15 mm. thick at the upper part, 7 mm. thick at the apex. The walls of the right ventricle were 5 mm. and 3 mm. at the upper part and apex respectively. All the chambers contained soft, dark-red clots.

The aorta, 7 cm. in circumference, showed a few atheromatous areas around the orifices of the coronaries, but the latter were not obstructed.

Just below the orifice the left coronary artery became extremely atheromatous, nodules of 2 to 3 mm. in diameter, in the walls, obstructing the lumen. The descending branch was narrowed, calcified, and about the middle of the anterior wall was obstructed by a red thrombus. Below this the artery was smooth. From the level of the thrombus the muscle was dry, yellow and red in irregular areas, and tore easily. Adherent to the endocardium over this part was a thin mixed thrombus.

The circumflex branch was nodular, but its lumen was free as far as the first branch, 2.5 cm. from its origin. Here it was completely obstructed by nodular arteritis for a distance of 3 mm. Beyond this, the lumen of the circumflex proper was free, but the next large descending branch was also totally obstructed. The wall of the left ventricle from this point, *i. e.*, from the anterior papillary muscle

to the septum, the posterior part of which was involved, and from near the ring to the apex, was the seat of a recent infarction. Only a thin layer, under the epicardium, from one to two mm. in thickness, was not necrosed, and it was red, swollen, the fibres cloudy and granular. The non-infarcted parts of the heart showed brown atrophy, fibroid degeneration and fatty change.

In this case the relation of the coronary sclerosis to the gradually developing dyspnœa, and of the infarction to the acute attack a week before death is clear. The case illustrates also the fact that a heart extensively necrosed may continue to act for some time fairly well, if exposed to no sudden strain, thus explaining the early stages of those cases in which large fibrous areas are found *post-mortem* in the breast. It also is a fine example of atheroma limited almost entirely to the coronary vessels. Usually there are other evidences, but in rare cases only one set of vessels is involved, a point brought out prominently in the diagnosis of this case.

I have not intended to speak in detail of the symptoms of coronary artery disease, nor even to touch on the important points of prognosis and treatment. If I have been able to interest you in the subject in such a way that new light will be thrown upon it, I shall have additional cause for congratulating myself on being with you to-day.

ANGINA PECTORIS WITH RUPTURE OF THE LEFT VENTRICLE.*

DE LANCEY ROCHESTER, M. D.,† BUFFALO, N. Y.

On December 1, 1893, about 10.30 P. M., I was called to see a lady apparently sixty-five or seventy years old. She gave a history of attacks of acute indigestion, occurring at irregular intervals, accompanied by severe pain in the stomach, lasting anywhere from a few hours to a day or two. She had had a particularly severe attack a week or ten days previous, after eating a small piece of Welsh rare-bit. The night before I was called, she had had a sharp attack of pain lasting two hours, which was finally relieved by the external application of heat and the use of a mustard-plaster over the epigastrium. Since that time, the pain had not entirely left her but had remained in abeyance until about six P. M., when, at the dinner table, it was so intense that she ate nothing but a little bread and took three or four teaspoonfuls of brandy. The pain continued to grow worse till she sent for me at 10.30 P. M. I found her sitting up, suffering considerably but not so much as to prevent her from enjoying some jocular remarks of her friends about her. After having heard her history, as just given to you, it seemed to me that the pain was not one of indigestion but more probably neuralgic in character. Accordingly, I prescribed some chlorodyn and returned home.

About 1.30 A. M. I was again summoned and found upon reaching the patient at about 2.30 A. M. that the pain had not yielded to the medicine, although forty drops had been given at eleven P. M. twenty more at 12.30 and again at 1.15 A. M. She was lying upon the bed, writhing with pain, which she located in the epigastrium and left hypochondrium. I tried to make out that it was anginal in character but it was not felt in the præcordial region, nor was there any pain in the left shoulder nor arm, though a little pain had been felt in the left elbow during the day. The pulse was small, rapid, very easily compressible, with almost no force to the wave. The heart's action was regular, though very rapid; there were no valvular murmurs to be detected; the first sound was very weak. The pain was so excessive that, in spite of the previous doses of chlorodyn, I administered morphine, 0.015, hypoder-

*Read at the meeting of the Alumni Association, University of Buffalo, May 5, 1896 in discussion of Prof. Geo. Doch's paper.

†Adjunct Professor of Practice of Medicine, Medical Department, University of Buffalo.

matically and a few whifts of chloroform. These relieved her temporarily but, as soon as the effect of the chloroform had passed, the pain returned so that in one hour, I repeated the morphine, keeping up the the chloroform. Three quarters of an hour later, as there was no abatement of the pain, I called Dr. Stockton in consultation but, by the time he arrived, the patient had yielded to the remedies given and was comparatively comfortable.

The next day, I saw her twice. She was vomiting from the morphine but the intensity of the pain had left her. Cerium oxalate and bismuth finally quieted the vomiting. The second day, she was comfortable and took a little milk gruel. I did not see her on this day, being myself sick, but Dr. Stockton called and, to quiet a tendency to the return of pain, prescribed fluid extract of cannabis indica in drop doses. She took of this, altogether, five drops, three at intervals of an hour and two at intervals of two hours. She slept splendidly all night and awoke in the morning feeling well. She asked for some breakfast and, just as the nurse was bringing it to her, she suddenly placed her hand on the epigastrium and said to her friend who was sitting beside her, "O! must I have that pain again!" Her face became suddenly blanched and she fell back dead.

Dr. H. U. Williams has reported the case from the pathological findings, in the New York *Medical Record* of May 18, 1895. The autopsy was not complete but, so far as it went, no abnormality was found outside the pericardium. The pericardial cavity contained several ounces of clotted blood which had come from a rent in the left ventricle, midway between apex and base. The tear extended entirely through the ventricular wall, being longer internally than externally (16 and 9 m. m., respectively.) An irregular area of ventricular tissue about the tear, was infiltrated with blood. The hæmorrhage had been from the left coronary artery at its bifurcation. One of the branches contained several plates of calcification and was occluded with a thrombus. The right artery was normal. There was also a slight atheroma of the aorta.

ACUTE PELVIC PERITONITIS FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.*

J. M. BALDY, M.D.,† PHILADELPHIA, PA.

Considered from the standpoint of the general practitioner, acute pelvic peritonitis has received little consideration of late years, the impetus being mostly in the surgical direction. Naturally, all physicians have the well-being of their patients equally at heart, and each one is apt to adopt, for the sake of reaching a given end, the methods with which he has the greatest confidence of obtaining the surest and speediest result. A surgeon will in a given case resort to surgery where a medical man would reject these methods and call to his aid his therapeutic knowledge; and both may be right within certain limits. Take, for instance, the case of a woman suffering from an attack of acute pelvic peritonitis. This attack may be due to a chronic disease of the Fallopian tubes, a condition which may have existed for some years, and the woman may have suffered from several previous attacks of peritonitis due to this cause. Therapeutics will most frequently cure the existing acute peritonitis, but the originally diseased Fallopian tube remains in the pelvis a continued menace to health, ever ready under favorable conditions to rekindle the local flame. The purely medical man is correct in pronouncing his patient well after the abatement of all the symptoms; but so also is the surgeon correct when he goes a step far-

*Read before the Pennsylvania State Medical Society, Harrisburg, Pa., May 20, 1896.

†Professor of Gynecology in the Philadelphia Polyclinic: Surgeon to the Gynecean Hospital: Gynecologist to the Pennsylvania Hospital.

ther, and, looking to the future of the patient, says she will never be safe from a return of similar attacks until the diseased structure, which is contained in the pelvis, is removed and ceases to be a menace.

It is my object, however, not to deal in any way with the surgical side of this subject, but to point out and impress two aspects of this condition which appear to be important to all medical men, whether they practice surgery or general medicine. I mean the diagnosis, and, more important, the non-surgical methods of treating acute pelvic peritonitis.

The diagnosis is important in that it aids at times very materially in the conduct of the case, but is of most importance as a means of determining the exact cause of the attack, the determination of which will not infrequently settle the question for or against an operation in the mind of the attending physician. I do not hold that an exact diagnosis of the cause is absolutely necessary for the treatment of the complicating inflammation, such being contrary to the facts. A case of pelvic peritonitis may be, and as a fact often is, treated rationally and correctly without the knowledge of the exact cause. No scientific physician, however, is justified in thus proceeding in the dark without having first exhausted all known means of arriving at an exact diagnosis; but after all is said and done, it must be acknowledged that the cause cannot always be detected even by the most skilled, the failures recorded being, of course, in direct ratio to attendant skill and ability. Fortunately, the symptoms of pelvic peritonitis occur with sufficient emphasis as to leave small doubt as to its presence. The pain, swelling and tenderness, the anxious expression of the face, together with the rise of pulse and temperature coming acutely, are only too strongly indicative of inflammation, and their presence in the pelvis and lower abdomen quickly locates the seat of the trouble. A local examination may or may not discover the cause of the attack. From the point of view of settling what line of treatment to adopt, medical or surgical, the discovery of the cause is of the greatest importance. If, however, a purely medical course of treatment is determined upon, the cause matters little as far as the treatment is concerned. By this is meant that the medical treatment of pelvic peritonitis is to a great extent routine, and varies but little if at all, it matters not what the cause, whether it be due to a gonorrhœa, an old post-puerperal septicemia or a neoplasm. Even where an operation is known to be necessary, it is at times advisable to relieve the acute attack of peritonitis before submitting the patient to an operation. This is especially true at times of those cases which are sent on long journeys in order to reach a surgeon or enter a hospital. This is extremely fortunate, as not infrequently the physician in charge does not or cannot make an accurate diagnosis. If, however, he be familiar with the general principles of the treatment of inflammation, it is only necessary that a slight variation of their application be made for the pelvis. The principles involved in the treatment are precisely the same in the pelvis as in any other part of the body. It is only in the details of the application in which there is any variation.

Inflammation is treated by rest, depletion and incidentally relief from pain, and this is consequently the method of treatment of pelvic inflammation. Only too often is the desire to relieve pain made the occasion for neglecting depletion. Opium will fulfil two of the indications (rest and relief of pain), but will defeat the third (depletion) of equal, if not of more, importance. A patient suffering from acute pelvic peritonitis should be put to bed and kept there, thus fulfilling the first indication —rest. Physical rest of the muscular system must be followed by functional (sexual) rest. If this can be secured with certainty in no other way, large, soft vaginal tampons may be worn between treatments, replaced frequently, and care being taken that they do not press upon the posterior parts of the vagina too firmly. Wool is much the best material for this purpose, on account of its elasticity and its non-absorbing qualities. Rest is particularly important at the time of the menstrual period.

Depletion is obtained in several ways.

Direct scarification or leeching of the cervix uteri will at times give remarkable relief. The great remedy for this purpose is however hydrogogue cathartics, the best of which are the salines. A teaspoonful of magnesium sulphate each hour until the bowels begin to operate is invaluable for this purpose. The object to be gained is depletion and not merely emptying the rectum and colon of fecal matter, although this in itself is beneficial. Hence the aim should be to secure half a dozen or more movements within a few hours, the last ones being purely serous. Not infrequently will an attack of acute pelvic peritonitis be entirely ended with the purgation; the abdominal distention subsides, the pain and tenderness are relieved, the pulse and temperature become normal and the patient is at once convalescent. Such a prompt result gives rise to the suspicion that the attack was not a peritonitis at all and in the majority of cases this is the truth as has often been proven by abdominal section. There exists a sort of reflex peritonitis accompanying a very small local inflammation in the pelvis which often simulates a general involvement of the whole pelvic peritoneum. Abdominal section has frequently shown such cases to possess an abdominal and pelvic peritoneum free from any trace of inflammation outside of a few apparently unimportant adhesions. It is this class which is terminated so abruptly by a saline purge.

In a true inflammatory attack, however, the purge is of great importance and benefit, but must be looked upon as only a step, although an important one, in the treatment. Should magnesia preparations be rejected by the stomach, calomel in grain doses repeated half a dozen times followed if possible by one or two doses of saline and finally a large enema of hot soapsuds is an excellent substitute.

The peristaltic action of the intestines induced by the purgatives will most probably increase the pain for the time. Should this not prove unbearable it will be well to encourage the patient to submit to it until the bowels move when it may be promised with confidence that the suffering will be markedly lessened if not altogether relieved. Should the pain however prove too great to bear, opiates in the form of hypodermatics of morphia in small doses ($\frac{1}{6}$ to $\frac{1}{4}$ gr.) need not be feared, although it is best if possible to first secure free purgation; under these circumstances it will generally be found that they are not needed. Depletion being obtained in this manner it should be followed up by the application of the vaginal douche given twice daily. The first effect of a hot douche is to cause congestion and unless the application is pushed to the extent of procuring the secondary effect of the hot water (the shrinking and blanching of the tissues) it will do positive harm. To insure a proper result therefore a gallon of water must be used, the patient must be reclining upon her back and the water must be at a temperature of 105° to 110°. In no other way can anything but harm come from the douche.

Counter irritation, poultices, etc., are of more than doubtful utility, although there use is attended by no harm and may serve the good purpose of allaying the mental condition of the patient.

The attack will be of longer or shorter duration according to the underlying disease which is giving rise to the trouble. Those attacks which keep a patient confined to her bed for a month or six weeks, or longer, give rise to the suspicion that suppuration has taken place, and consequently should always be given the advantage of an expert opinion when that can be obtained.

The diet should be properly regulated and the excretory organs should all be kept in good condition. There is no occasion for the use of antipyretics in any of these cases. When the patient is well enough to leave her bed, care should be taken that she avoid all undue exercise or sexual indulgence until the pain has entirely subsided. Such general management as the proper regulation of clothing, etc., need not be emphasized before such a body as this.

Ulcer and cancer of the stomach may be differentiated in diagnosis according to Dr. Blindermann, of Germany, by an examination of the blood. In cancer, there is a steady diminution in the proportion of hæmoglobin.

COMMUNICATIONS.

A CASE OF DUBOISIN-POISONING.*

C. A. VEASEY, M.D.,† PHILADELPHIA.

Cases in which there exists an intolerance of duboisin, either when administered internally or when solutions are instilled into the conjunctival cul-de-sac, are not of such rare occurrence as to make it desirable that each new case should be reported. As early as 1879 Nettleship[1] reported eight cases of poisoning from the instillation of several drops of a solution of this drug of the strength of four grains to the fluid-ounce, the symptoms varying from slight transient giddiness to violent delirium. In the same year a case was reported by Carl[2] from the instillation into each eye of three or four drops of a solution of the same strength, and another by Tweedy,[3] the latter case being one of iritis, and the drug being employed to break up the synechiæ, as it was supposed to be much stronger in its action than atropin. Later, cases were reported by Chadwick,[4] Kollock[5] and others, but in all of the cases referred to the solution was of the strength of four grains to the ounce and in most of them several instillations were made before symptoms of poisoning were observed.

In the present case, however, the quantity of the drug giving rise to severe symptoms was much smaller, and the rapidity with which these symptoms appeared was so marked that they give to the case additional interest.

Miss P——, aged twenty-seven years, a stenographer by occupation, consulted me in 1892 for constant headache, always much worse in the afternoons and towards the close of the day and never so bad on the days on which she was not obliged to work. There were also symptoms of accommodative asthenopia, some ciliary pain, and slight conjunctivitis, all of which were made worse by close application to her work. Her general health was very good beyond the strain and annoyance caused by her ocular symptoms.

Upon examination there was found to exist compound hyperopic astigmatism, the axes being 135° and 45°, and this was corrected with the aid of cumulative instillations of homatropin hydrobromate as the cycloplegic. All of the eye-symptoms rapidly disappeared and she was able to perform her work with absolute comfort.

In 1895, a little more than three years from the time she had been glassed, she consulted me at my office, saying that she had accidentally broken her lenses, and inasmuch as some of the old symptoms had returned about a month before, she thought perhaps she might require some change. After making the preliminary examination, she was directed to employ cumulative instillations of homatropin hydrobromate, as before; but, with a trial of two different solutions obtained from two different sources, it was found impossible to relax all of her accommodation. A solution of duboisin sulphate was then ordered, of the strength of two grains to the fluid ounce, of which she was to instil one drop into each eye, three times a day.

The patient resided in one of our suburban towns, and, not understanding that it was necessary for her to use the drops on the day previous to the one upon which she was to come to my office, did not have any instillations made until she was ready to leave home

* Read before the Philadelphia County Medical Society, March 11, 1896.

† Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic; Chief Clinical Assistant to the Ophthalmological Department of the Jefferson Medical College Hospital; Consulting Ophthalmologist to the Philadelphia Lying-In Charity Hospital, etc.

[1] *Lancet*, 1879, ii, p. 352.

[2] *Klin. Monatsbl. f. Augenheilk*, 1879, xvii, p. 337.

[3] *Lancet*, 1879, ii, p. 441.

[4] *Brit. Med. Jour.*, 1887, i, p 327.

[5] *Medical News*, 1887, i, p. 344.

on her way to the city to be refracted. On the train she felt somewhat heated and flushed, and, to use her own expression, her "brain felt as if too much champagne had been taken," she was so excited, and when she reached the station in the city, she found it almost impossible to walk. Taking a carriage, she was driven at once to my office, arriving there in about forty minutes from the time the drops were put into the eyes. She staggered into the reception-room, talking in an incoherent manner to my door-attendant, so that it was at once reported to me that an intoxicated woman was in the office. I saw her immediately, and, suspecting that either the duboisin or hysteria was the cause of the symptoms, immediately placed her on a couch in my library. In going from the office to the library it was ascertained that she could not walk without assistance, and that her gait was of the dragging character seen in certain lesions of the spinal cord. She was intensely excited, talking in an incoherent manner and replying to all questions vaguely. Occasionally a proper reply to a question could be obtained, but most of the answers indicated delirium. The throat was exceedingly dry and the pupils moderately, but not fully, dilated. The face and hands were flushed, presenting an appearance indeed not unlike a scarlatinous eruption; the pulse was small but strong and rapid, the number of beats a minute being 124; and the respirations shallow and hurried, being twenty-eight a minute. In half an hour the patient lost almost all control over herself, not being able to raise her head, arms or legs without assistance, though she was able at times to move her fingers. In regard to the latter movements, however, I was not sure that they were not reflex. The flushed condition was now disappearing and she was becoming pale in spots; the speech was reduced to a whisper now and then, and no proper replies to questions could be obtained. The pulse had become soft and compressible, though but slightly reduced in frequency, and the respirations were now fourteen in a minute and still shallow. There seemed to be partial anesthesia of the whole body.

The symptoms described lasted for about three hours, when they began to disappear gradually. When control of the voice began to return there was low, muttering delirium, lasting about half an hour before full control was gained. In four hours from the time the patient had arrived at my office she was able to take a carriage and go to the house of a friend, after having given me a most uncomfortable morning.

On the following day she returned, accompanied by her sister, who had made the instillation of the solution on the preceding day and by whom I was assured that only one drop was placed in each eye, as I had cautioned the patient that the drug was poisonous and must be used very carefully. The probability of hysteria being the cause of the symptoms was excluded by correcting the refractive error with the use of atropin sulphate as the cycloplegic, and beginning its use at once, two instillations being first made at my office to ascertain if there was any systemic effect. I had the solution of duboisin sulphate examined and it contained only the quantity called for in the prescription, namely one grain to the half-ounce of distilled water.

It is impossible to say accurately just how much of the drug was absorbed into the system. The point of the dropper was a very small one, so that it is probable that about $\frac{1}{120}$ of a grain was placed in contact with the conjunctiva. It is, however, impossible that all of this was absorbed.

The case is interesting and instructive in showing that so small a dose of duboisin may give rise to such alarming symptoms.

The Old Days and the New.

In the year of our Lord, A. D. 1870. Scene, surgical ward.

SURGEON.—How is Jones doing?

HOUSE SURGEON.—Extremely well, sir; the wound is suppurating nicely.

SURGEON.—That's all right.

In the year of our Lord, A. D. 1894. Scene, same surgical ward.

SURGEON.—How is that amputation of the breast?

HOUSE SURGEON.—I'm sorry to say, sir, the wound is suppurating.

SURGEON. — What! Suppurating!!! Do you say suppurating? Well, I'll be—. *Boston Med. and Surg. Jour.*

CONCERNING THE REPAIR OF CORNEO-SCLERAL WOUNDS, WITH PROLAPSE OF THE IRIS.*

G. E. DE SCHWEINITZ, M.D.,† PHILADELPHIA.

For practical purposes, prolapse of the iris, occurring at the corneo-scleral junction, or its immediate neighborhood, may be divided into those varieties which result from a perforating ulcer and those which follow a wound, either accidentally inflicted or designedly placed, as, for example, in the corneal section of cataract-extraction.

The treatment naturally consists of two procedures: non-operative, *i. e.*, the use of eserin and a pressure-bandage; and operative, viz., abscission of the prolapse and closure of the wound. It is to the best method of dealing with these cases from the operative standpoint that I desire to call attention, in the hope of eliciting some discussion from my colleagues present to-night.

First, the method of Gama Pinto for obtaining a non-adherent cicatrix.

As is well-known, this surgeon abscises the prolapsed portion of the iris, frees all adhesions to the margin of the ulcer, and covers the opening in the cornea with a flap of bulbar conjunctiva, which should be cut twice as large as the opening and pushed into the orifice with a blunt probe. A firm binocular bandage is applied and the eye not dressed until the third day. Then it will often be found that the conjunctival flap has healed into the ulcer. A flat, non-adherent cicatrix results, or, in other words, an ordinary corneal scar without staphylomatous bulging, and a circular pupil.

I have employed this method several times and with gratifying success, although I have not always been able to secure non-adherence of the iris to the cicatrix.

For example, a patient now in the Philadelphia Hospital was admitted several years ago with a large marginal ulcer occupying the entire upper and outer portion of the cornea, which had perforated in one corner and permitted the prolapse of a large portion of the iris. This was abscised in the usual way, and the Gama Pinto directions followed. It was an unfavorable case, owing to the extent of the ulcer and the shape and character of the opening, which followed the curve of the cornea for some distance. At present, fully six years after the accident, the point of prolapse is occupied by a perfectly flat white cicatrix, to which there is slight adherence of the iris, so that the pupil is drawn upward and outward. The vision of the eye is excellent and the patient has no trouble with it, being able to sew the entire day—a result, considering the extent of the ulceration and prolapse, far better than was to be anticipated.

In another case, which I have recorded briefly in the *Philadelphia Polyclinic*, the patient suffered from monolateral gonorrheal conjunctivitis, complicated with a sloughing ulcer at the inferior portion of the cornea, perforation, and a large prolapse of the iris. The iris was abscised, the margins of the aperture carefully cleansed, and the iris freed as much as possible. The opening was then closed with a flap of conjunctiva *transplanted from the other eye*, the size of the flap being almost that of the circumference of the cornea, or, in other words, fully three times the size of the original opening. The result was admirable; the graft became adherent, there was no bulging, or very little protrusion of the cicatrix, and, although the iris was somewhat adherent and the pupil distorted, vision was about one-seventh of normal — far better than could possibly have been expected from the serious nature of the lesion and the extensive prolapse of the iris. The man returned after nearly three months, and the following note was made: Graft covering lower third of cornea. Vessels

* Read before the Philadelphia County Medical Society, March 11, 1896.

† Professor of Ophthalmology in Jefferson Medical College.

from conjunctiva pass over graft. Pupil partially covered. Vision, fingers at two meters, without correction.

Should the method of Gama Pinto fail to secure a non-adherent cicatrix after the healing had become firm, there would be no objection to the performance of Mr. Lang's operation of dividing the anterior synechiæ with a blunt knife-needle—a procedure that I have practiced in a number of instances with almost universal success.

The advantage, then, of the Pinto flap, even if non-adherence of the iris is not secured, consists in a more rapid healing of the corneal wound, together with the prevention of staphylomatous bulging.

Second, the closure of the wound with stitches.

The report of a few cases will illustrate this method:

Case I.—A male, aged eighteen years, was admitted to the wards of the Philadelphia Hospital on May 11, 1895, with violent bilateral gonorrheal conjunctivitis. The right cornea was still clear; the left cornea had already begun to be opaque.

In spite of treatment there rapidly formed on the left side a large corneal abscess, and on the right side, nine days after admission, a large crescentic ulcer formed at the upper and outer corneoscleral junction, which speedily perforated, permitting a huge prolapse of the iris. It was impossible to make pressure, owing to the inflamed conjunctiva; eserin was tried without effect, the prolapse and staphylomatous bulging becoming greater every day. Therefore, a week after the appearance of this prolapse it was abscised (the discharge from the conjunctiva had almost ceased, although the membrane was still vascular), the edges of the wound freed as much as possible, and the iris replaced with a spatula. The corneal and the scleral edges (if I may so express myself) of the wound, which occupied the upper and outer third of the corneal rim, were now freshened and united with four sutures. The sutures were removed on the fourth day, and the wound found firmly united.

When my term of service ended, six weeks later, vision was $\frac{20}{30}$ without correction, the media clear, the pupil slightly oval and drawn upward and outward, and the eye quiet, although there was still some thickening of the papillary layer of the conjunctiva, owing to the previous conjunctivitis. The vision of the left eye was counting fingers, owing to the presence of a central corneal macula.

Although not bearing upon this topic, it is interesting to note that this patient during his attack of gonorrheal conjunctivitis successively developed synovitis of all the large joints, beginning with the left knee. With each attack of synovitis there was marked exacerbation of the corneal symptoms, and it was during the attack of synovitis in the left knee-joint that the perforating ulcer which I have described appeared. I have never before seen so extensive a case of gonorrheal synovitis.

Case II.—A female child, aged twelve years, came for treatment to the Jefferson Medical College Hospital on December 27, 1895, presenting at that time, according to the records, a phlyctenular kerato-conjunctivitis, with an ulcer at the inferior margin of the cornea. This ulcer must have gone on to perforation, and when I came on duty, on the 13th of January of the present year, there was a large prolapse of the iris, with beginning staphylomatous bulging. On the 17th of the same month the prolapsed iris was excised, the edges of the wound freshened and closed with a silk suture, after replacement of the iris.

The suture was removed on the third day, and recovery has been uninterrupted; the eye, previously irritable and congested, rapidly became white and quiet, and now the opening is closed by a firm white cicatrix, without bulging, the pupil is nearly circular, although there is some attachment of the iris below, and vision with the best correcting glass is $\frac{20}{40}$.

Case III.—Kate Ingram, aged fifty, an insane patient in the Philadelphia Hospital, was admitted to the Ophthalmic Wards with double cataract. Both lenses were extracted without iridectomy. In the right eye there was kind healing, without accident; in the left eye a large prolapse of the iris was found twenty-four hours after extraction. The latter was treated in the usual method by the instillation of

eserin and a compress bandage, and somewhat lessened in size.

Three weeks after extraction the prolapse was abscised, the iris replaced as much as possible, and the wound closed with two silk sutures, which were removed on the fourth day. The healing was perfectly kind; the pupil, instead of being round, is a vertical oval, and vision on February 1st, after the correction of six diopters of astigmatism, was $\frac{5}{10}$. This astigmatism will very much decrease in the course of time, and no doubt there will be corresponding improvement in vision.

I shall not occupy more time with additional clinical histories, as these are sufficient to illustrate the class of cases to which this procedure is suited, namely, wounds and ulcers at or near the corneo-scleral junction, associated with prolapse of the iris, in which, after removal of the prolapsed iris, it is possible to secure perfectly clean corneal wound-edges. I would prefer not to pass a stitch if the margin of the wound was infiltrated or gray. I would also hesitate about passing a stitch if a wound at the same time had injured the ciliary body.

It seems to me that the method of Gama Pinto is preferable if the opening is distinctly circular, and if it is not possible to obtain a perfectly non-infiltrated wound-edge without destroying too much corneal tissue, as, for example, in the case of monolateral gonorrheal conjunctivitis, with perforating ulcer. If, after abscission of the prolapsed iris, the wound is elliptical, or follows the curve of the cornea, as, for example, in Case I, stitches seem preferable to a graft.

I have as yet not excised the ulcerated tissue of a large corneal ulcer and then stitched the edges of the wound, but I am inclined to try the measure. Neither have I stitched wounds situated at some distance from the edge of the cornea.

Corneal sutures are inserted as a rule by some cataract-operators after simple extraction, for example, by Kalt, in France, who is a strong advocate of this procedure. So, also, a number of operators have advocated the insertion of these sutures after the abscission of a prolapsed iris subsequent to simple extraction.

The point of this matter evidently is that we are able to insert delicate sutures in the cornea with more impunity than we would be led to believe from the ordinary text-book descriptions of these lesions. I have always used delicate silk thread and the curved needle which comes in Dr. Stevens' tenotomy-case. I have not tried catgut, and do not believe that it would be as satisfactory as the silk.

Application of Borax in Food Preservation.

Borax has poisonous effects in many cases and its application in food preservation is serious in this light says an exchange. At the present time there are a vast number of preparations intended for the cure and preservation of foods, which depend for the claim advanced upon the large portion of sodium biborate contained. This fact has led Fére, of Paris, who has had considerable experience with the drug in the treatment of intractable cases of epilepsy, to investigate its physiological action. He several times found it necessary to give large doses for long periods, and frequently met with persons who were peculiarly susceptible to the drug. The untoward effects were loss of appetite, succeeded by burning pain at the pit of the stomach, buccal dryness, and eventually nausea and vomiting. Also a remarkable dryness of the skin was produced, which not only favored, but in several instances caused, skin maladies, notably eczema; the hair, also, became dry and fell out, threatening complete baldness. The most dangerous result of the use of sodium biborate is its power to increase kidney disease, or to convert a slight renal malady into a fatal or malignant affection.

A surgical hint of value is given by an exchange in the advice to never operate for chronic tumor without having tried anti-syphilitic remedies for at least a week. Many growths supposed to be beyond surgical skill, fairly melt away under the benign influence of mercurial ointment or iodide of potassium. This clinical test is far surer than the microscope.

CONCERNING THE EXTRACTION OF IMMATURE CATARACT, WITH THE REPORT OF CASES.*

G. E. DE SCHWEINITZ, M.D.,† PHILADELPHIA, PA.

Practically all ophthalmic surgeons are agreed that about the sixtieth year the lens may be extracted safely, even if it is in part unclouded, because, if Schweigger is correct, at that period of life the usual criteria of ripeness are erroneous, accommodation being annulled by physiologic changes in the lens. Whether we may with equal propriety extract immature cataract in younger individuals, is still a matter of dispute, and it is much to be desired that some rational and safe procedure may be devised to relieve the patient from the long period of semi-blindness, which often exists while a senile cataract is slowly advancing to maturity. Not only is this stage present in senile cataracts, but also in other types of opacification of the crystalline lens, namely, zonular cataracts, immature traumatic cataracts, and the partially formed cataracts in young people.

Recently, this subject has been discussed at some length by Dr. John E. Weeks in a paper entitled "The Operative Treatment of Immature and Some Forms of Zonular Cataract," which was presented to the Baltimore meeting of the Ophthalmologic Section of the American Medical Association. Twenty-five cases, without a failure, were reported, and the result appeared to this writer to be as favorable as those ordinarily obtained by the removal of cataract at the stage of maturity.

It is interesting to note one or two of the comments on this paper. Knapp, for example, refers to the fact that the ripening operation unfortunately is often done without effect, often provokes iritis, and has even been followed by plastic and purulent irido-cyclitis. Therefore, if patients will not wait, he prefers the risk of dealing with the remnants by secondary discission to the double operation of ripening and extracting the lens. Hotz, of Chicago, describes his experiences with ripening processes as unsatisfactory, either because the lens did not ripen, or because his efforts were followed by cyclitic irritation, and concludes that the extraction of immature cataract does not involve greater danger than the removal of a fully mature cataract, provided there is not a very large amount of absolutely transparent lens-matter. When this is the case, the patient's vision is usually still so good that there exists no urgency for an operation. Not a little interesting are the remarks of Dr. White, of Richmond, who, as we all know, is a strong advocate of one form of ripening operation. He says, "I never ripen immature cataract if the case will wait for nature's processes, and then only if the patient is under sixty years of life, because I thereby break up and loosen the cortex from the capsule, simplifying the extraction; over sixty years of age, I extract without waiting for maturity."

First, concerning the ripening of cataracts.

I have taken the liberty of introducing this subject in the hope that it may elicit discussion from my colleagues, and not in any sense to bring forward new views or new methods. My own experience with ripening consists in the performance of one of two operations: Either the Foerster method, or, in a few instances, the method which is particularly advocated by Boerne Bettmann, of Chicago, namely, direct massage of the lens-capsule. I have not performed either of the operations many times, and thus far have no bad result to record; perhaps because my experience is a limited one. I have, however, seen extremely bad results in the hands of others, not only from primarily induced iritic and cyclitic complications, but also when the ripening process proceeded smoothly, but at the extraction the cap-

*Read before the Philadelphia County Medical Society, March 11, 1896.

†Professor of Ophthalmology in Jefferson Medical College.

sule was found thickened, the cortex clinging tenaciously, and the toilet of the wound much more difficult than would have been the case had the cataract been extracted in its immaturity.

Second, concerning the method of extracting an unripe cataract.

Knapp, Weeks and other operators of skill and experience, employ the simple extraction, precisely as they would for an uncomplicated mature cataract. In all my cases of unripe cataract I have used the combined method, sometimes with a preliminary iridectomy, with the exception of one instance, in which I did simple extraction. I have preferred iridectomy because it has seemed to me that prolapse of the iris, from the danger of which the best operator is not free, added to the increased danger of cortical remnants, multiplied unnecessarily the risks of the patient, and, moreover, that the toilet of the wound was more easily accomplished. Perhaps with wider experience and increased skill, my opinion on this subject may change. Certainly the experience of Weeks indicates that simple extraction is satisfactory.

Third, concerning the opening of the capsule.

Theoretically, peripheral opening of the capsule, and, therefore, confining cortical remnants, is the proper procedure. Practically, with the exception of one case, I have always freely opened the capsule by a T-shaped flap, and, usually, immediately at the conclusion of the operation have instilled a drop of sterilized atropin - solution. I have avoided iritis, except in one instance. In this case, however, there was trauma during the process of healing.

Fourth, concerning irrigation of the anterior chamber.

I believe this to be a dangerous procedure and never employ it. Occasionally, in clearing the wound, I have made slight pressure on the sclera above the corneal section with a sterile spatula, and allowed my assistant to flood the wound-edges with a tepid boric-acid solution, or a sterile normal salt-solution, but I have never, in recent times, injected these fluids into the chamber. I am well aware that surgeons with large operative experience report most satisfactory results from irrigation of the anterior chamber, particularly Lippincott, of Pittsburg, who practices irrigation as a routine matter, but I am not inclined to burden the extraction of cataract with an additional manipulation when equally good results are obtainable without its use.

In the accompanying table I present twelve cases in which I have extracted cataract which was immature. Four of these were immature nuclear cataracts, six immature senile cataracts, one immature soft cataract, and one immature traumatic cataract.

The immature soft cataract was removed by simple extraction and the ultimate vision was $\frac{5}{5}$. In all of the others iridectomy was performed, in five of them preliminary iridectomy, four times by myself, and once by another surgeon. The recovery in all was uneventful, with the exception of one, in which a traumatism on the fourth day produced a hemorrhage into the anterior chamber, with subsequent iritis, the vision, however, being $\frac{5}{12}$, which an ultimate discission, not yet performed, will doubtless raise to a higher standard.

Two of the cases are interesting as presenting the extraction of immature cataract in high myopia, a myopia of not less than eleven diopters, and associated with extensive atrophic myopic choroiditis.

In six of the cases subsequent discission was performed, in two it was declined, in one it has not yet been performed, and in the remainder it has been unnecessary.

In two patients vision was normal, in three one-half of normal, in two two-fifths of normal, in one one-fifth of normal, and in two one-sixth of normal. In one vision is good (the patient has not yet been tried with glasses), and in one vision was counting fingers, the patient being able to move about. The poor vision was due to alcoholic atrophy of the optic nerve, which was present before the extraction of the cataract. The two cases with one-sixth of normal vision are the cases of high myopia before referred to, and, considering the extensive lesions of the fundus, this result is excellent. The case with one-third of normal vision, declined discission, which would certainly have raised the acuity of sight; of the cases with

No.	Sex.	Age.	Health.	Cataract.	Date.	Operation.	Recovery.	Immediate Vision.	Secondary Operation.	Ultimate Vision.	Remarks.
1	M.	58	Chronic alcoholic.	Immature senile. V. = counting fingers.	1. 18. 90.	Preliminary iridectomy in March, 1889. Extraction 1. 18. 90. Some cortical remnants in coloboma.	Uneventful.	Counting fingers.	6. 6. 91, three discissions	Counting fingers.	Small atrophic disc; shrunken arteries; patient able to get about; clear coloboma.
2	F.	40+	Feeble.	Immature nuclear. V. = fingers at 1 foot.	5. 17. 95.	Preliminary iridectomy, 12. 14. 94. Extraction, 5. 17. 95.	Uneventful; small prolapse of inner pillar of coloboma.	$\frac{6}{36}$; 23 days.	No discission.	$\frac{6}{36}$	Patient highly myopic: correcting lens + 1; many vitreous opacities; huge posterior staphyloma and myopic choroiditis.
3	M.	66	Good.	Immature senile. V. = fingers at 1 meter.	10. 4. 95.	Preliminary iridectomy in Brooklyn two years ago; extraction, 10. 4. 95; clean delivery of lens.	Uneventful.	$\frac{6}{36}$; 20 days.	Dec., 1895.	$\frac{6}{12}$	Old corneal macula; clear coloboma; a few slight vitreous opacities.
4	F.	75	Good.	Immature senile. V. = fingers at 6 inches.	11. 7. 95.	Combined extraction; clean removal of lens; thick capsule.	Traumatic hemorrhage into anterior chamber on fourth day; slight iritis.	$\frac{6}{12}$; 22 days.	Not yet performed.	$\frac{6}{12}$	Several posterior synechiæ; capsule thick.
5	M.	74	Good.	Immature senile.	11. 9. 95.	Combined extraction, 3 mm. flap; some cortex remaining.	Uneventful.	$\frac{6}{36}$; 12 days.	Declined.	$\frac{6}{36}$	Some cortex remaining in wound; patient left hospital 12 days after extraction; extraction in opposite eye of right cataract 2 weeks previously; v = $\frac{6}{12}$ without discission.
6	M.	58	Good.	Immature nuclear. V. = $\frac{3}{60}$.	11. 11. 95.	Preliminary iridectomy, 6. 10. 95; extraction of lens, 11. 11. 95; much cortex remaining.	Uneventful.	$\frac{6}{60}$	1. 6. 96.	$\frac{6}{18}$	Tension soft, thick capsule remaining, but with discission large clear space through web.
7	F.	40+	Feeble.	Immature nuclear. V. = counting fingers at 2 feet.	11. 20. 95.	Preliminary iridectomy, 6. 3. 95; extraction, 11. 20. 95.	Uneventful.	$\frac{6}{36}$; 33 days.	No discission.	$\frac{6}{36}$	High myopia; posterior staphyloma and extensive retino-choroiditis; vitreous opacities; is able to sew with + 4.50; several bands of capsule above and below, with clear space between.
8	M.	58	Good.	Immature nuclear. V. = counting fingers.	12. 2. 95.	Preliminary iridectomy, 6. 28. 95; lens extracted, 12. 2. 95.	Uneventful.	$\frac{6}{12}$; 18 days.	Jan., 1896.	$\frac{6}{18}$	Tension of the eye soft; two small bands of capsule remaining across pupil.
9	M.	27	Albuminuria.	Immature soft. V. = fingers at 1 meter.	12. 16. 95.	Simple extraction; Knapp's section.	Prolapse of iris; restoration under eserin on sixth day.	$\frac{6}{18}$; 14 days.	Discission, 1. 16. 96.	$\frac{6}{6}$	One strand across pupil; fundus easily seen and normal.
10	M.	65	Chronic bronchitis.	Immature senile. V. = counting fingers at ½ meter	1. 28. 96.	Combined extraction; some cortex remaining in coloboma.	Patient very restless; anterior chamber remained open 5 days.	$\frac{6}{36}$; 14 days. $\frac{6}{12}$; 6 weeks.	Discission, 3. 19. 96.	$\frac{6}{6}$	Clear pupil.
11	M.	40	Good.	Immature traumatic; v. = l. p.	4. 25. 94.	Small corneal flap, with iridectomy; considerable cortex remaining.	Uneventful.	Counting fingers at 1 foot; 10 days.	Declined.	$\frac{6}{12}$	Cortex gradually absorbed, leaving some thickened capsule blocking the coloboma, which contained several small openings; 10. 10. 94, v. = $\frac{6}{12}$? Patient seen one year later, and v. had declined to $\frac{6}{36}$, owing to thickened capsule; declined discission.
12	F.	40	Good.	Immature senile. V. = counting fingers; lens slightly swollen.	2. 12. 96.	Combined extraction; a large piece of cortex remaining.	Uneventful.	—	—	—	Patient under her physician's care, who reported gradual absorption of the cortex, and the pupil now quite clear, 3. 6. 96. Glasses not yet ordered; patient attending to household duties.

two-fifths ($\frac{6}{15}$) of normal, one had an old corneal macula, and the other has not yet submitted to a needed discission.

The ages of these patients varied from twenty-seven to seventy-five; four of them had reached that age in which, to quote the sentence in the beginning of this article, "the ordinary criteria of ripeness" need not be regarded and the lens may safely be extracted. The others were under this age.

The health of seven of these patients was good; in two it was feeble; one had albuminuria, one chronic bronchitis, and another was a chronic alcoholic with atrophy of his optic nerves.

I have not included in this list several other cases which properly belong here, chiefly for the reason that I do not know exactly what the final outcome was. One, for example, was a case of partially formed cataract, the probable result of an injury. The lens was extracted and the healing kind. The patient, however, left the hospital without permission, some cortex remaining in the coloboma, and never subsequently reported. There is no record of the vision other than that he could see to tell the time on the face of a watch. In another very interesting case, which I reserve for a separate publication, there was a degenerated lens, also the result of traumatism, and which I extracted in its entirety with capsule-forceps, but not without loss of vitreous, ultimate vision, however, being very good. I have not included in this list those instances with which we all are familiar, in which, although the lens comes out cleanly, it is yet an unripe lens; lenses, in other words, which never reach full maturity, or, at least, never reach the condition of perfect opacification.

If I were to sum up my belief in regard to the extraction of immature cataract, I would say with Knapp, with White, and I suppose with all surgeons, that I prefer always to wait for maturity, or for that time of life when the lens, even though immature in the ordinary sense of the term, will cleanly leave its capsule. But I prefer the extraction of immature cataract (combined section) to the performance of an operation for ripening. I perform preliminary iridectomy if functional examination determines that there are complicating circumstances, as, for example, in the cases of high myopia, and in two of my cases of immature nuclear cataract in which the tension of the eyeball was diminished and there was tremulousness of the iris, indicating probable vitreous changes.

A New Method of Inducing Abortion.

A new method of inducing abortion is given by Dr. A. Duhrssen in *Samb. Klin. Vorw.* He has practiced it in nineteen cases with the best results. In all cases under seven months, whether he wishes to empty the uterus of all its contents, whether of the entire ovum or of the placenta alone, or whether the os uteri is partly open or entirely closed, he packs the uterine cavity with as much iodoform gauze as it will contain, and then fills the vagina with salicylate wadding. In a few hours the pains begin, and then cease in a few hours more, and at this time any bleeding present will also have ceased. When the pains have ceased it will be time to remove the tampons, and in doing so it will generally be found that the fœtus and placenta are already in the vagina, or when the ovum is small in the baloon-shaped cervix, the internal os and fundus uteri being well contracted. In some cases the strength of the pains will have expelled the uterine contents and also the tampons through the vulva. The further advanced the pregnancy is the more certain is the activity of the tampons on the uterus. He thinks that for the cautious practitioner this will prove to be an excellent and safe method of emptying the uterus.

A new treatment for epilepsy is recommended by Bexhtereff in the *Presse Medicale*. He claims marked success and gives the details of treatment as follows: He puts of the leaves of adonis vernalis about thirty or forty grains in five ounces and a half of boiling water, filters, and adds from 150 to 170 grains of bromide of potash, from two to three grains of caffeine, and of this mixture gives from four to eight teaspoonfuls a day in water or sweetened milk. With this treatment he claims to have produced an entire cessation of the attacks, or a diminution in their intensity and frequency.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, JULY 4, 1896.

EDITORIAL.

PRIVILEGED COMMUNICATIONS.

We have already alluded, in an editorial, "The Physician's Right to Protect His Family," to the Kitson-Playfair suit. The following press report from London is so curious and, in a sense, so contradictory, that we venture again to bring the matter of the confidential relations of physician and patient, to the attention of our readers:

"Sir Edward Clarke, probably the leading lawyer in England, and Horace Avory, also a barrister of eminence, have been consulted in reference to the privileges attaching to a medical man's position, and their united dictum is likely to be of interest to doctors and lawyers across the Atlantic as well as here. In the first place, they assert positively that no privilege, in the legal sense of the term, attaches to statements made to a medical practitioner by his patient, and so far they would seem to be at variance with the verdict of the jury in the Kitson trial.

They make, however, an even more important statement in reference to another point concerning which the medical profession here has been greatly exercised; they declare that it is a doctor's duty, when he is in attendance on a case in which a criminal attempt has been made, to attend his patient to the best of his skill, and they assert that he will not thereby render himself liable as an accessory after the fact, providing, of course, that he does not actually assist the patient to escape.

They go farther than this, indeed, and declare that they do not think a doctor is liable to indictment for misprision of felony merely because he does not give information of the case wherein he suspects that criminal practice has been resorted to. This is a very interesting pronouncement, considering the distinguished legal force from whence it proceeds."

The close connection which exists between even the codified laws of our own

States and the common law of England, gives this comparatively informal expression of opinion, a possible influence over our own profession. We can appreciate the logic of the theory that no class legislation whatever should exist, since such, in this case, would do away with the secrecy of professional interviews and would compel the physician, like every other citizen, to disclose any information necessary to convict a criminal or in other ways of interest to courts. On this theory depends the "free medicine" argument, which opposes legislation limiting the right to practice medicine to especially prepared individuals. But general principles must give way to special exigencies, and we believe that few who have studied carefully and impartially the nature of a physician's services, and fewer physicians, will antagonize the theory that legislation governing those services should recognize the need of peculiar fitness to deal with any such exigency and the humanity of demanding that the confidences of a sick person should be sacred.

In the report which we have quoted, we can distinguish an allegiance to neither of these conflicting theories. Sir Edward Clarke and Horace Avory admit that professional duty and humanity should take precedence over the general duty of a citizen to the legal machinery of the State. They grant the freedom of the physician from responsibility to make a crime known to the legal authorities, yet they would leave him as free to gossip about his patients, outside of court or in court, if he happened to be so disposed, as if he had learned of their private affairs in an accidental manner. At least, this is what we understand by the assertion that "no privilege, in a legal sense of the term, attaches to statements made to a medical practitioner by his patient."

While we can comprehend the attitude assumed by those who would remove all restrictions from the right to practice medicine, and who would exact from the physician testimony in all cases in which information about his patient was desired by a court, we must confess to being unable to appreciate the consistency of the position taken by these eminent British jurists. It is common sense, as well as a guiding principle in law, that every exception to the action of general rules should be offset by a corresponding responsibility. Although we have already upheld the opinion that no rule of secrecy should be construed so literally as to prevent the physician from protecting his own interests and those of his household, we denounce as pernicious, in every tendency, any legal or ethical ruling against the confidential nature of the communications made by a sick and feeble person to his medical advisor.

Perimetritis may occur in infants from vulvitis. According to the *British Med. Jour.*, Marx has several times observed symptoms precisely resembling those indicating acute inflammation of the appendages in the adult. A child subject to vulvitis, yet otherwise in good health, is suddenly seized with fever and nausea. Pain is felt in the hypogastrium, radiating along one or both thighs. Frequent desire to micturate and pricking feelings, when urine is passing, are often felt. Rectal exploration with the little finger shows characteristic deposit on each side of the uterus. Marx finds this physical symptom common, and believes that the tubes are generally involved in chronic vulvitis. In such a case the pain at puberty is very violent, and masturbation may light up old-standing inflammatory trouble. Old lesions of this kind are certainly liable to become acute in young recently-married women through excessive coitus. It is quite a mistake to accuse the husband or to suspect that the wife has recently suffered from specific discharge in many such cases.

STATE EXAMINING BOARDS AND CHARTERED MEDICAL INSTITUTIONS.

That the practice of medicine needed the restrictions made in the present law establishing a state examining board few denied, and that the law was good in most of its provisions was also generally conceded. When the law was framed a source of danger to its working was recognized in the existent rivalry between the different colleges, but it was thought that the provision that no person connected in any capacity with a medical college (and thus presumably having its interests paramountly at heart was eligible to a position on the board) obviated this. Late developments seem to show that this provision was a wise one but also that it is insufficient to meet all the exigencies that are likely to arise.

According to newspaper accounts, which have been uncontradicted, it is feared that some applicants have passed the State examinations by unfair means, and what is worse, there seems to be a general intimation that they were assisted in this dishonorable course by parties connected with the institutions from which they graduated, two of the leading medical colleges in this city being involved in the scandal, the extreme rivalry between them as to the standing of their graduates being at the bottom of the matter. That the scandal is confined to the candidates for examination by the Regular board is so much the greater stain upon those who call themselves *the* profession. Briefly the facts as published in the Philadelphia *Record* are as follows:

"Previous to the holding of the first session of the Allopathic Board of State Medical Examiners a physician of Harrisburg was informed that the questions to be propounded to the applicants for certificates were in possession of some of the students. He was loath to believe this, but subsequently the same information was conveyed to him from two other sources. He notified the president of the Allopathic Board, who at once ordered an investigation. Before this knowledge had been received by the Allopathic Board, however, its first session had been held, and how many were aided by the cribbed papers will never be known. In the meantime some of the applicants from western Pennsylvania had heard that the stolen papers were exclusively in the possession of Philadelphia applicants.

The entire council was summoned to meet, and all of the questions that had been prepared for the examination of the applicants were destroyed and new ones prepared. At the same time, investigation was ordered. At the meeting eighteen students were examined under oath, and much important information elicited. One man had a written set of questions, which he said he had picked up here and there, getting no two of them from any one person. The Examining Board is reticent regarding the investigation. It was also brought out at the inquiry that one of the applicants had all the questions, and, it is alleged, that he had offered to sell them to ten or fifteen students for $150. Another applicant offered seven of the questions in surgery for $28.

It is claimed, but with what authority is unknown, that the rivalry between Jefferson Medical College, Philadelphia, and the University of Pennsylvania is at the bottom of the trouble. It is said that the questions were telegraphed to Harrisburg by cipher from Philadelphia the first two days of the examination."

Last year it was noticed that graduates of other schools were turned down in a far larger proportion than those of these two, and the question naturally arises whether the same state of affairs existed then and whether the difference lay not so much in point of capability and due preparation for the practice of medicine as it did in the fact that the unsuccessful candidates were not "in the ring" and hence were not supplied with the questions before hand. No statement is made as to any penalty imposed for these proceedings among the candidates other than of course that those who had not yet been examined were compelled to go through an examination in which there was no chance of evasion. Those who had passed through the first

day will no doubt shake hands with themselves on their good luck and say nothing. This leads to the thought that the defects in the working of the law must be met. Perhaps the following suggestions may be of value:

First: The questions should not be prepared until so close to the time of the examination that it would be very difficult for anyone to have time to get them.

Second: They should not be printed, thus affording less opportunity for bribery. The responsibility for their being held inviolate should lie between the member of the board preparing the set of questions and one other person who should have the issuing of them.

Third: Some penalty should be devised to punish candidates making use of unfair means to pass the examinations, and still heavier penalties should be imposed upon any member of the board who will allow questions to become public in any manner.

Fourth: All persons concerned in the fraud, particularly if they be professors or other dignitaries connected with any institution of learning acting with a view to unduly exalt their particular college should suffer punishment, (such as for example a suspension of their professional privileges together with a publication of the causes for the same) that would prevent them from again assisting in the evasion of the law for any such purpose.

These suggestions are submitted to the consideration of the profession at large in general and to examining boards and medical college officials and professors in particular.

ABSTRACTS.

THE LAW OF THE WHEEL.

GRIFFITH OGDEN ELLIS.

Solomon has said that "there is nothing new under the sun," but the bicycle is a new thing to the consideration of the courts. Its use for purposes of locomotion and travel is so recent that as yet there has been little adjudication as to the rights and liabilities of travelers employing it on the highway. The trend of judicial opinion, however, seems to place it in the category of vehicles and carriages with the rights and liabilities attendant thereto.

In the early stages of its popularity the wheel met strong opposition from both pedestrians and the agencies of transportation on the road, the former objecting to its use on the sidewalk and the latter objecting to its use on the road, claiming that it was an object of terror, the use of which was perilous in that it frightened horses. In time, however, the wheel rolled itself into popular favor and use to such a degree as to compel its recognition by the courts and the establishment of its legal status with other vehicles. When the courts came to determine the principle applicable to the particular case, it was shown that the wheel was only an apparent exception to Solomon's aphorism, for the principles to which the courts were compelled to look, were those laid down by Blackstone, Coke and the old common law jurists who never saw, and so far as we know, never dreamed of the two-wheeled vehicle or the bloomer girl. We therefore look to the mother country for the first case involving the law of the wheel.

The English courts early decided that the wheel was not an obstruction to or an unreasonable use of the streets or roads, "but rather a new and improved method of using the same, and germane to their principal object as a passage-way."

The first person to bring the bicycle into litigation was one Taylor, an Englishman, who had come into collision with one Goodwin, who, in the parlance of to-day, was "scorching" along the highway. Goodwin was accused of violating a statute making the furious driving of a carriage upon the highway an offense, the terms of the statute being, "If any person riding any horse or beast, or driving any sort of carriage, shall ride or drive the same furiously so as to endanger the life or limb of any person," etc., proceeding to designate the penalty. When brought into court, Goodwin did not deny the allegation of immoderate speed, but set up that the bicycle was not a carriage within the meaning of the statute, and the word "driven" could not be applied to the bicycle, and that the statute did not apply, since bicycles, having been invented since the enactment of the statute, could not have been contemplated by its framers. He claimed that the mere fact that the bicycle had wheels did not make it a carriage any more than it did a wheel-barrow or roller-skates. The courts, however, held that the words "any sort of carriage" were broad enough to include the bicycle and that the person propelling a bicycle drives it as much as one drives a horse or as an engineer drives an engine, for he controls its course and regulates its speed.

The anomalous character of the bicycle and its use, however, necessitates some slight variations in applying the law of carriages and vehicles to it, and it seems that the wheelman in riding the road partakes somewhat of the nature of a horseman and to some extent reaps the benefits and disadvantages of the immemorial usages and customs applicable to him. For instance, it seems that there is no law requiring a horseman to turn to the right. The rule seems to be that a man on horse-back should be governed rather by his notions of prudence and should be required to consider somewhat the convenience of vehicles which he meets, depending upon their character. A horseman should yield the traveled track to a vehicle, particularly if it is heavily loaded, where he can do so without peril. The facts that bicycles and horses can pass along a track much narrower than that required for carriages, and that they also occupy much less space in length are of weight in determining the duty of a wheelman or rider. So, too, is the fact that his control is more absolute than that of the driver of horses attached to carriages. A bicyclist, however, cannot be forced to ride his machine on dangerous ground, and the cardinal rule, subject to the above considerations, is: "Keep to the right."

In general terms the law of the bicycle may be summed up in the following paragraphs:

All persons have a right to use a public highway in the ordinary manner in safety, and municipal corporations or cities are liable to bicyclists for injuries incurred by reason of defective roads, provided they are not guilty of contributory negligence. But a municipal corporation is not an insurer, and all that is required of it is that it shall use reasonable diligence to keep the highway in reasonably good condition for safe travel by the ordinary means or vehicles in general. But the corporation is under no special obligation to wheelmen, and an obstruction or defect which will cause an injury to a wheel or its rider, will not sustain an action unless it is also sufficient to operate as a defect with relation to vehicles in general. Thus, a stone might be disastrous to a bicycle and still have no effect upon a carriage, and in such case the wheelmen would probably have no action.

The driver or owner of a vehicle who willfully or negligently causes a collision or damages a bicycle while left standing by the street curb or roadside would be liable for the injury; but it is the duty of a wheelman to avert collision if possible and he cannot recover damages unless he himself was free from contributory negligence in permitting the collision or the injury complained of.

A person injured while committing an illegal act cannot recover therefor; so in States having Sunday laws, a wheelman riding on Sunday for business or pleasure cannot recover any damages if injured.

When bicycles are going in the same

direction the hindermost may pass the others on either side. But one riding on the left-hand side of the road probably assumes all risks and is *prima facie* guilty of negligence.

Though in general a bicycle has no right upon the sidewalk, a pedestrian has a right to walk in the highway and may cross the street where he pleases, but he is guilty of negligence which will prevent recovery of damages if he attempts to cross immediately in front of a moving vehicle, and for the purposes of such a case, the fact that the vehicle is on the left-hand side of the road is not alone evidence of negligence to charge the rider or driver.

If the bicyclist rides at an immoderate rate of speed on a highway or street and while so doing injures a pedestrian, he may be liable either civilly or criminally, for his recklessness in riding at such a rate of speed will, in general, be held to supply the want of criminal intent. Thus, it has been held that where a bicyclist kills a human being while going at a dangerous speed he may be convicted of manslaughter. But what is "an immoderate rate of speed" is a question to be determined in view of all the circumstances of the case, as time and place, for what might be a perfectly safe rate of speed upon a country road might be murderous on a city street.

SYMPHYSEOTOMY: A DESCRIPTION OF A NEW METHOD.*

The method employed was as follows: The patient being brought to the edge of the table, with the thighs flexed upon the abdomen, and the vagina and vulva properly cleansed, a small male urethral sound is used to hold the urethra and lower portion of the bladder to the patient's left. The labia minora and clitoris are then drawn well up, and to the patient's left. The operator's left index finger is next introduced into the vagina and pressed against the posterior groove of the symphysis up to the top of the joint. A small incision is made about one-half inch below the clitoris.

A curved, probe-pointed bistoury is then passed through the wound, close against the joint, to the top of the symphysis, until it is felt by the tip of the left index finger. The blade now lies under the vessels of the clitoris, and need not cut any arteries. As the pubic bones are V-shaped in front, I believe it is easier to enter the joint from in front than from behind. Moreover, the left finger, being in close contact with the posterior groove of the joint, and the fingers holding the bistoury being very close in front, still greater facility is afforded for finding the joint. The bistoury is now worked carefully down through the symphysis, and the amount of section determined by the separation that ensues, the left finger being a constant guide to the amount of separation. For separating the sub-pubic ligament, it may prove best to change the direction of the bistoury, and cut up instead of down. The curved, probe-pointed, bistoury is not necessary, and is slightly objectionable in that its backward curve forces the soft tissues lying over the joint further away than if it were straight. A slender, long tenotomy knife can be used with much grace and safety, beginning the incision along the middle of the joint, and working upwards and downwards. I used such a one in Case IV. The cutting edge being only an inch long, there is no danger of cutting the sub-pubic vessels, when the handle is properly lowered. The guarding finger posteriorly will keep the urethra and bladder out of danger. A bistoury whose cutting edge is not over 1¼ inches long at the probe end, and whose shaft curves like a sigmoid, is the best, and I am having such a one made.

The essentials of this method of operating are:

1. Secure full dilatation of the cervix, if possible, without risk to the child.
2. Make the initial incision a little above the sub-pubic arch and under the *elevated* clitoris.
3. Have the urethra and bladder held to one side with a sound.
4. Introduce the left index finger

* Edward A. Ayers, M.D., New York *Polyclinic*, May, 1896.

within the vagina against the posterior groove or ridge of the joint up to the top.

5. Pass a narrow tenotomy knife, with the point close to the joint, up to within a half inch of the top, and *under* the overlying soft tissues.

6. Substitute a probe-pointed bistoury and meet the left index finger with the probe over the top of the joint, and work the blade through the joint downward until separation is felt by the posterior finger.

7. Have an assistant press the mouth of the wound, and the tissues lying over the joint, with a small piece of gauze.

8. Deliver with the forceps, if possible, and refrain from supra-pubic pressure, aiming to deliver the head through the cervix without drawing the latter down below the symphysis.

9. Hold the bladder well to one side while pressing the pubic bones together.

10. Pass a small strip of gauze into the pre-pubic wound, and another against the cervix, after irrigating, leaving both pieces exposed for easy removal, having refrained from stitching cervix or perineum.

11. Dress the vulva with gauze, and strap the joint with adhesive strips.

12. Remove all the gauze in thirty-six hours and irrigate vulva and vagina twice a day, keeping the vulva carefully dressed between times.

13. Attend to catheterization in person.

PLACENTITIS: RETAINED PLACENTA.*

Pozzi says: "All inflammations of the uterus are of infectious origin." The question of how and where infection occurs is one which has occasioned much discussion, whether by hetero-infection or by auto-infection.

Prophylaxis consists in avoiding all causes of endometritis, enumerated before. Guard against abortions as far as practicable. Learn from Leopold not to make digital examinations in labor. Adhere strictly to the rules of asepsis. Treat endometritis, if present. In the third stage of labor the placenta, if only partially adherent, may be removed by the Credé method. Traction on the cord in partial adhesions is contraindicated, as inversion of the uterus may occur, especially if the attachment should be at the fundus. If adhesions are extensive, the hands should be thoroughly cleansed with soap and water; dipped in 1-1000 solution of bichloride of mercury for a few minutes; the fingers and hand are then gently and carefully introduced into the uterus. The "peeling process" must be done with great care, that the nails may not wound the tissues, or the fingers be pushed through the walls. It is not always possible to determine the line of division between the uterus and placenta. Barnes and Ramsbotham both speak of cases where the structures of the placenta and uterus were so intimately connected that it was impossible to locate the line of demarcation. Ramsbotham says: "I have opened more than one body where a part of the placenta was left adherent to the uterus, and where, on making a longitudinal section of the organs and examining the cut edges, I could not determine the boundary line between them." Morgagni, Portal and Capuron report similar instances. With such conditions it would be an easy matter to push the finger through the morbidly-softened tissue and produce fatal results. In detaching an adherent placenta, pieces are frequently left behind. The question then arises: What is our duty in such cases? It is not an easy question to answer. If the placental tissue is left, it may cause immediate or secondary hemorrhage, or become a point of infection and sepsis. Where there is only a small portion, it may soon come away spontaneously. Introduction of the hand or instruments, however carefully done, may convey pathogenic microbes into the uterus. The safest thing to do, we believe, is to remove the placenta, as far as it is possible, with fingers and dull curette, and irrigate the uterus with a 1-10000 solution of bichloride of mercury. In abortions

*C. B. Schoolfield, M.D., *American Journal of Obstetrics*, May, 1896.

where the placenta is retained, it is incurring great risk to allow the placenta to remain until nature takes the initiative to throw it off. The placenta often becomes necrosed and offensive, the patient infected, and hemorrhage of a dangerous character is liable to occur at any time. We, therefore, deem it best to dilate the cervix, remove the placenta at once, irrigate as in other cases, thus relieving the patient of risk, and yourself of many anxious moments.

POINTS IN THE PATHOLOGY AND TREATMENT OF ACUTE BRONCHITIS.*

That a catarrhal inflammation is not a tissue inflammation only so far as its causation is concerned, is illustrated by the fact that bronchitis itself is rarely caused by direct irritation of the bronchial mucous membrane.

The inhalation of irritant particles or elements of the inspired air does not cause bronchitis once where a chill to the cutaneous surface causes it ten times.

The most important observation, however, bearing upon our present subject is that of Hildebrandt, which would tend to prove that the air is entirely freed from all germs before reaching the trachea.

Dr. St. Clair Thomson and Dr. R. T. Hewlett, of the Bacteriological Department of the British Institute of Preventive Medicine, have made a special research into the fate of micro-organisms in inspired air.

They calculate that from their experiments the lowest estimate of organisms inhaled every hour into the nose would be fifteen hundred, but that it must be very common in the average London atmosphere for fourteen thousand organisms to pass into the nasal cavities during one hour's tranquil respiration. What becomes of these organisms was the object of their research. Beginning with the trachea, they found that the mucus derived from the trachea of all animals recently killed in the laboratory was always sterile. Proceeding upward, they report that the mucous membrane of the healthy nose only exceptionally shows any micro-organisms whatever. The interior of the great majority of normal nasal cavities is perfectly aseptic. On the other hand, the vestibules of the nares, the vibrissæ lining them, and all crusts forming there, are generally swarming with bacteria. These two facts seem to demonstrate that the vibrissæ act as a filter, and that a large number of microbes meet their fate in the moist meshes of the hair which fringes the vestibule. Not only does this arrangement arrest the ingress of germs, but others which have penetrated into the nose are rapidly ejected by the action of the ciliated epithelium.

Dr. Thomson sums up the treatment of acute bronchitis thus:

"If called early, during the stage of simple hyperæmia, you may find the patient quite husky, with much dyspnœa, and a husky, dry, irritant cough—symptoms, in short, of a tumefaction of the bronchial membrane, with much the same condition in his larynx. At this stage an active counter impression to the surface of the chest, taking the place of the original external irritant which induced the internal disorder, may be of great service. A teaspoonful of red pepper to a pint of boiling water makes a much better and safer application to use on a flannel which encircles the chest than a sinapism does. At the same time the dyspnœa is very quickly relieved by starting secretion from the dry, swollen bronchial membrane itself, and for this I prefer one grain of tartar emetic in a teacupful of water, one spoonful to be taken every ten minutes till the patient feels a little nausea, when his tightness and asthmatic wheezing will quickly vanish.

"Nauseating expectorants, such as the preparations of ipecacuanha, squills, senega, etc., I believe have their place in the treatment of this earliest condi-

* Dr. W. H. Thomson, in New York *Medical Journal.*

tion in some cases of bronchitis; but beyond that stage I cannot concur in their value.

"When we come to 'capillary' bronchitis, however, all our indications for treatment necessarily change. The frequency of this condition in children and its rarity in adults is what we should expect from its mechanical origin primarily, and therefore so liable to occur in those little patients with their deficient powers of expectoration. I need not to such an audience as this repeat why we use emetics now, certainly not because they are expectorants, but rather intending by the mechanical act of vomiting to dislodge a portion of the obstructing secretions. We must, however, by all means direct our efforts now to maintain the force of the heart. Brief and quick applications of the red pepper infusion often rouse the failing organ. But one of the most serviceable means, which has stood me in very good stead, is taking advantage of the physiological relation between the act of swallowing and the act of expectoration. Repeatedly we see in adults with phthisis the benefit of sipping hot fluids to ease their morning expectoration. The experiments of Kronecker and Meltzer prove that this result comes about mainly by stimulation of the heart with each act of deglutition. I have thus sat up all night with an apparently dying infant and given it half a teaspoonful of hot milk and limewater to swallow every few minutes,and found the flickering pulse improve as long as this assiduity was maintained, until finally a turn for the better became decided.

"I see no reason, however, why we should not try to combat the pulmonary collapse by gentle artificial respiration from time to time. For this purpose I would recommend Sylvester's method."

THE CAUSE OF THE PREPONDERANCE OF DORSO-ANTERIOR POSITIONS OF THE FŒTUS.*

In the *British Medical Journal* for February 29, Professor Murdoch Cameron, of the Glasgow University, states that his experience in performing the Cæsarean operation has shown him that with the left occipito-anterior position of the fœtus the placenta will be found on the posterior wall of the uterus and somewhat to the right side; that with the right occipito-anterior position it will be found posteriorly and somewhat to the left; that with the right occipito-posterior position it will be found anteriorly and somewhat to the left; and that with the left occipito-posterior position it will be found in front and somewhat to the right, and so on with the various other positions. In other words, the child faces the placenta. This arrangement, says Professor Cameron, is favorable to the child, for its back can be applied to the uterine wall with advantage during a pain, whereas, if the placenta intervened, asphyxia would result, especially if the membranes had ruptured. He thinks, also, that in cases of scantiness of the liquor amnii, but for this wise arrangement of the uterine contents, the circulation in the placenta might be interfered with, even before the onset of labor. Professor Cameron quotes a statement of Osiander's to the effect that the ovum, on entering the uterus, will find little space, and will consequently attach itself near the Fallopian tube on the fundus or on the side of the uterus. This does not, however, explain why it oftenest becomes attached posteriorly.

If Professor Cameron's observation is well founded, it follows that posterior implantations of the placenta are in inverse ratio of frequency to dorso-posterior position of the child. What, then, is the relative frequency of the various positions? If statistics on this point are based on vaginal examinations, says Professor Cameron, the results may vary with the progress of the head; examinations made early in labor might be set down as revealing an occipito-posterior position, while in the same cases examinations made after rotation had taken place would perhaps be interpreted as indicating an occipito-anterior position.

* Editorial, *New York Medical Journal*, May. 1896.

Therefore, to settle the question, a large number of examinations made early in labor are required. Professor Cameron states the relative frequency as follows: Left occipito-anterior, sixty-seven per cent.; right occipito-posterior, ten per cent.; right occipito-posterior, twenty per cent; left occipito-posterior, three per cent. Accordingly, in Cæsarean operations, he has found the placenta situated posteriorly in seventy-seven per cent. of the cases, and anteriorly in twenty-three per cent.

These observations seem to us likely to prove of value in practice. If, for example, a right dorso-posterior position of the fœtus is made out and the Cæsarean operation has to be resorted to, the operator is warranted in inferring that the placenta is attached anteriorly and to the left, and consequently that by incising the uterus on its right side he may avoid the site of the placental implantation, and thus give the child the benefit of the organ's physiological action to the last, as well as reduce the amount of the blood lost. Then, too, if the placenta has to be expressed after the expulsion of the fœtus by the natural forces, some modification of the manual procedure may possibly be suggested by knowledge of the situation of the placenta.

CHRONIC GASTRITIS WITH PERIODIC ATTACKS OF MIGRAINE.*

The patient has been under my care for a number of years, and previous to the commencement of the present treatment, I have been unsuccessful in affording much relief or in preventing the recurrence of the frequent periodic attacks of migraine, the cause of which I could not account for more than "a habit long continued," aggravated by gastric catarrh.

The history of the case is as follows: Mrs. A., aged 55, since early womanhood has been subject to attacks of migraine at intervals of two, three or four weeks, but seldom free from them for longer intervals.

An attack comes on by general malaise usually of a day's duration, repugnance for food or drink, marked drowsiness, much depression with request for rest and quiet; followed by complete physical prostration, dull frontal headache which the least noise or disturbance makes more intense; invariably accompanied by violent and frequent attacks of vomiting and retching, inability to retain food or nourishment of any kind; retention of bowels; often cold sweats; pulse somewhat slow and weak, and small in volume. This condition, lasting usually for two days, is followed by gradual cessation of symptoms.

During the period of four or five days, she remains constantly in bed and desires only complete rest and quiet. Previous treatment has been so varied and on so many different plans, that I refrain from mentioning them.

Two years ago, I was able to prevent an attack for over two months by the use of strychnine in 1-20 grain doses t.i.d., with careful diet and artificial digestive.

In May, 1895, I put her on Marchand's glycozone in teaspoonful doses, well diluted t. i. d., using this, as all other remedies, experimentally. She commenced to improve in general health; an unusually good appetite, without the previous distressing symptoms following; a more regular movement of the bowels; freedom from headache. In every way a decided improvement. This improvement lasted during continuation of treatment for over three months. Unknown to me, she stopped taking the glycozone, thinking herself perfectly well. In a few weeks she had an attack, milder and devoid of gastric distress. A similar attack, two months later, occurred some weeks after stopping the treatment, caused, I might say, by imprudence in diet.

The conclusion in this case is that the headache is sympathetic; that the stomach becomes acutely inflamed by its inability to naturally and properly perform its functions, responds to the call of nature to unload itself, and thus secure for a time rest; that the use of glycozone has corrected the existing gastritis, and by so doing has removed the primary cause of these many years of suffering.

*Geo. A. Curriden, M.D. *Medical Summary.*

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, March 11, 1896.

The President, DR. J. C. WILSON, in the chair.

DR. C. A. VEASEY presented a report of a "CASE OF DUBOISIN-POISONING."

[See page 11].

DISCUSSION.

DR. HANSELL expressed his interest in this subject, as he uses the drug constantly in patients under forty years of age, and has had some experiences much like those related. Lately, however, they have been fewer, he thought, because of the different sources from which the drug is obtained. The composition of the little vials of duboisin is not always the same. Some druggists will put up a solution which is practically without sensation to the conjunctiva; others one that produces severe burning. In some cases it takes considerable time for the drug to act; in others it acts at once; so that there must be different preparations in the market. The amount that comes in contact with the conjunctiva does not produce the ill-effects, but that which is absorbed through the nasal cavities and the throat.

DR. DE SCHWEINITZ said that Dr. Veasey's paper is an excellent report of the toxic symptoms that not uncommonly follow the use of duboisin as a mydriatic. Having had one or two disagreeable experiences with the drug Dr. de Schweinitz rarely uses it, although it is sometimes employed in his hospital practice. Occasionally, in private practice, he gives it to medical students, chiefly because it paralyzes the ciliary muscle as thoroughly as any drug with which he is acquainted, and it possesses the advantage of being a cycloplegic agent of short duration. The paraplegia that Dr. Veasey has described is often marked, and is to be attributed to some influence of the drug on the motor centers of the cord. The medicament is much used in the treatment of insanity. No doubt many of these cases are to be explained by idiosyncrasy on the part of the patient, and perhaps also, as Dr. Hansell has suggested, by different strengths or actions of the alkaloid as derived from different sources. The most alarming case of mydriatic poisoning which has ever occurred in Dr. de Schweinitz' practice resulted from the instillation into the conjunctival sac of a solution supposed to contain one grain of homatropin hydrobromate in a dram of water every fifteen minutes for an hour and a half. The symptoms suggested hyoscyamin-poisoning, and an analysis of the solution proved that this drug had by mistake been substituted for the homatropin which was ordered.

DR. FRED'K HERBERT said that he always mixes his own mydriatic and thus avoids any such trouble as has been mentioned.

DR. G. E. DE SCHWEINITZ presented a paper "CONCERNING THE REPAIR OF LESIONS AND WOUNDS AT THE CORNEO-SCLERAL JUNCTION, WITH CASES."

[See page 13].

DISCUSSION.

DR. HANSELL said that he was not at all prepared to discuss this subject, from his own experience; because he had never sutured the cornea. There is no reason, however, in his opinion, why sutures should not be introduced into the cornea, as well as in other structures, with perfect safety. In most cases in which corneal sutures could be applied, it happens that the eye is so badly damaged by the purulent process or by the accident, that vision is irretrievably lost. The iris is inflamed, the lens frequently escapes, a false membrane obscures the pupil and atrophy results. The cases reported by Dr. de Schweinitz are interesting, as they have been followed to their conclusion. Dr. Hansell's experience has been limited to transplanting the conjunctiva. This operation is popular and is usually successful. By transplanting from the eye of an animal, or from another eye, or moving the conjunctiva up over the eye that is damaged, the injury to the cornea may almost always be covered up, without materially altering the rotatory movement of the eye.

DR. VEASEY said that his experience in treating corneo-scleral wounds has been principally obtained by assisting Dr. de Schweinitz in some of the cases he has had within the past three or four years; so that anything he might add would be only to testify to the remarkably good results that were obtained in most of them. Especially was this the case in the child with a large prolapse of the iris which had been increasing in size daily for several days and in which, after excision of the prolapse, the corneal opening was closed by sutures. Dr. Veasey had seen the child a few days before and all signs of irritation had subsided; the eye was perfectly quiet and the girl was attending to her school-duties.

DR. DE SCHWEINITZ agreed with Dr. Hansell that there is no good reason why we should not insert stitches in the cornea, as well as in other portions of the body. In the cases that he has recorded the injuries to the deeper structures were not such as to preclude the possibility of sutures being serviceable, and he was inclined to give this method of treatment a further trial.

DR. G. E. DE SCHWEINITZ presented

"NOTES CONCERNING THE EXTRACTION OF UNRIPE CATARACT."

[See page 16].

DISCUSSION.

DR. HANSELL said that the question of extracting unripe cataracts is one that concerns every ophthalmic surgeon. Cases are constantly occurring in which one wants to know what procedure it is best to follow. There is a misconception in the minds of some medical men—who think a lens is hard only when the cataract is mature; and forget that a lens may be entirely opaque and yet soft and unfit for the operation of extraction. Dr. Hansell referred to a case of congenital cataract, in a patient twenty-seven years old, in whom both lenses were involved. They were extracted in their entirety. The congenital lamellar opacity was distinctly marked, while the cortex of each lens was clear yet hard. At the time Dr. Hansell wrote Dr. Knapp asking at what age the lens is sufficiently hard to extract—when to discard the needle-operation and resort to extraction. He answered that the earliest age was fifteen years. Dr. Weeks says in his paper, that after twenty-five the lens may be extracted, even though the entire lens may not be included in the opacity. The Germans, who are operating extensively for the cure of high and progressive myopia, extract without regard to the age of the patient. They operate for all cases over ten D. Dr. Hansell's own experience is limited, but in one patient, aged forty-eight, who had lost an eye in an accident, he ripened the incipient cataract in the other eye by Forster's procedure. The wound healed kindly, and six weeks afterward he extracted a perfectly mature cataract. He believed the preliminary operation was unnecessary and that he could have extracted the lens just as well without dividing the operation into two parts. He thought it best to follow Dr. Weeks in this matter, especially in patients whose appearance and vitality do not correspond to their age.

DR. DE SCHWEINITZ said that each surgeon necessarily rests his belief on the value of the ripening operation for cataract on his own experience. His was limited and thus far had been without accident, but because he had seen such serious consequences of ripening cataracts in the practices of other surgeons, he was inclined to look upon this operation with disfavor. He had seen the excellent results of Dr. Jackson's ripening operation, who employs the White-Pooley method. None the less, he believed that Weeks is right—namely that it is better to do one operation on an unripe cataract,—viz. extraction without preceding manipulations for the purpose of increasing the opacification of the lens.

PERISCOPE.

NEWS AND MISCELLANY.

Children Support Large Doses of Arsenic better than adults, says *The Medical Bulletin*. Our author mentions that he has given to children eight years of age three centigrammes (4.5 grains) of arsenic acid daily without ill effect. Prescribed in this manner, arsenic is an excellent remedy in chorea, and able, in some instances, to jugulate a severe attack. Children usually take liquid better than solid preparations. Nevertheless, granules containing arsenic are readily taken, or the remedy may be made up into little *bonbons*, which children swallow or eat with pleasure. The writer, whom we follow sometimes, prescribes a granule containing one milligramme (1-65 grain) of arsenous acid, mixed with a sufficient quantity of mannite and honey, from three to five such granules being administered daily in dyspnœa, persistent bronchitis, asthma, etc. The arsenate of iron, also in granules of one milligramme each, may be administered in the same manner and in larger doses. As many as ten or fifteen granules of this preparation are given daily in chloroneuroses, or it may be made into pills, each containing five milligrammes. Toxic accidents of a chronic character are of very rare occurrence, and are due to neglect of the rule regarding an occasional suspension of the remedy.

The annual meeting of the Section on Obstetrics and Gynecology of the Buffalo Academy of Medicine, was held at the academy parlors, Market Arcade, June 23d. Dr. Matthew D. Mann read a paper on "The Use of Absorbable Ligatures in Abdominal Surgery," and Dr. Ludwig Schroetter on "Phlegma Alba Dolens."

Reduced Rates to Chicago.

On account of the Democratic National Convention, Chicago, Ill., the B. & O. R. R. will sell excursion tickets from all Ticket Stations on its lines east of the Ohio River, for all trains July 3, 4, 5 and 6, good for return passage until July 12 inclusive, at one single fare for the round trip.

Tickets will, also, be sold by all connecting lines.

The B. & O. maintains a double daily service of fast vestibuled express trains, with Pullman Sleeping and Dining Cars attached, running through to Chicago solid without change or transfer.—6-20-3-t.

The Action of Ether and Chloroform on the Kidney is a matter of interest, and is being investigated by a number of the medical profession. From a critical analytical study of 130 cases of narcosis in which the urine was examined prior to the operation and from three to six days after operation, both by chemical analysis and microscopical examination, Eisendrath, in the *American Journal Medical Science*, draws the following conclusions:

1. Albuminuria, which is already present, is increased more frequently by ether than by chloroform.

2. Albuminuria makes its appearance, however, more frequently after chloroform-narcosis than after ether-narcosis—that is, in the proportion of thirty-two to twenty-five.

3. Their action is equal upon amyloid disease of the kidney.

4. Tube-casts, with and without albumin, are found with equal frequency after chloroform and ether-narcosis, but disappear more rapidly in the case of ether. This harmful late action of chloroform upon the kidney has been proven to be greater than that of ether by E. Fraenkel.

The author reports in detail an interesting case of death following chloroform narcosis, in which the pathological lesion was a necrosis of the parenchymatous cells of the kidney.

The Mississippi Valley Medical Association.

A meeting of the Executive Committee of the Mississippi Valley Medical Association was held at Atlanta, on May 6th, and the following gentlemen were appointed to deliver addresses: Dr. H. N. Moyer, Chicago, address on medicine; Dr. Horace H. Grant, Louisville, address on surgery.

The indications are that the meeting to be held at St. Paul, on October 20th, 21st, 22d and 23d, will be the largest and most successful in the history of the association. As all the railroads will offer reduced rates for the round trip, an opportunity will be given to visit St. Paul and Minnesota during the most delightful season of the year.

C. A. WHEATON, M.D., St. Paul, Minn.,
Chairman Committee of Arrangements.

H. O. WALKER, M.D., Detroit, Mich.,
President.

H. W. LOEB, M.D., St. Louis, Mo.,
3559 Olive Street. *Secretary.*

Infant Mortality in Paris is Unusually great, more than 155,000 children under one year dying annually, according to the *Medical Record*, the greater number of them owing to neglect on the part of their mothers. The proportion of illegitimate births, which at the beginning of the century was four or five per cent. of all births, is now nearly nine per cent. for France and twenty-eight per cent. for Paris. Among the children of Paris wet-nursed the average mortality is seventy-seven per cent.

Dr. John H. Landis has taken the practice of the late Dr. T. C. Bradford, of Cincinnati, O.

When to Operate in Appendicitis has always been a disputed question. Dr. Nilley Meyer, of New York (*Practical Medicine*) says that in all cases of diffuse perforative appendicitis the operation must always be done at once. It is only exceptionally that patients recover without an operation. They have the best chance to recover if operated upon within the first twelve hours. In discussing acute appendicitis, he says the patients should always be carefully watched. If the pulse goes above 116 to 120, and has a tendency to stay there, this is an indication for an operation. In cases of doubt the operation is better than waiting.

In cases of subacute or mild attacks of appendicitis, also after the first severe attack, from which the patient recovers without immediate operation, the appendix should be removed. When the appendix has once been inflamed it must be regarded as a diseased organ, and one which is quite likely to give repeated, and more serious, even fatal, trouble in the future.

In Handling Diphtheria in Families, Dr. S. W. Kelly in the Cleveland *Medical Gazette* dwells strongly on the necessity of isolating the patient. He says: Employ disinfection in the good old way yet awhile, rather than to depend upon immunizing other members of the family with antitoxin. I cannot but believe that it is better to avoid the disease altogether than it is to introduce into the system of a person yet in health an agent so powerful, so liable to dangerous deterioration, whose dosage is not yet well settled and the use of which has, in some instances, it must be admitted, been attended with disastrous results.

The time will come, I hope and believe, when we will employ serum or something of the kind in immunizing against diphtheria (and other infectious diseases as well) as ordinarily and as safely as we now employ vaccination against small-pox; but that time has not quite come yet.

Reduced Rates to Washington.

The Young People's Society of Christian Endeavor will hold their Annual Meeting in Washington, D. C., July 7th to 13th.

For this occasion the B. & O. R. R. Co. will sell tickets, from all points on its lines, East of the Ohio River to Washington, at one single fare for the round trip, July 6th to 8th, inclusive, valid for return passage until July 15th, inclusive, with the privilege of an additional extension until July 31st by depositing tickets with Joint Agent at Washington.

Tickets will also be on sale at stations of all connecting lines.

Delegates should not lose sight of the fact that all B. & O. trains run via Washington.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2053. SATURDAY, JULY 11, 1896. VOL. LXXV—No. 2.

ORIGINAL ARTICLES.

PROGRESS IN ORGANOTHERAPY.*

AUGUSTUS A. ESHNER, M.D.,† PHILADELPHIA.

The basis of a great therapeutic advance was established when it was demonstrated by Eiselsberg in 1890 that the clinical syndrome resulting from total extirpation of the thyroid gland—and comprehended in the designation cachexia strumipriva—could be prevented by transplantation of the removed organ in a new situation. Schiff, who, in 1856, had observed that extirpation of the thyroid gland was followed invariably in dogs by death and who was able in 1884 to confirm his earlier observations, found that death could be prevented under these circumstances by grafting a portion of the gland beneath the skin or within the peritoneal cavity. In 1877 Ord pointed out changes in the thyroid gland in cases of myxedema, and in 1882 J. L. Reverdin called attention to similar changes in the sequence of surgical removal of that gland. In 1883 Semon suggested a causal relationship between the loss of thyroid function and the resulting symptoms; and the validity of this proposition was shortly afterward established by an investigation conducted by a special committee of the Clinical Society of London. In 1890, independently of the observation of Eiselsberg, Horsley suggested grafting of sheep's thyroid in the treatment of myxedema, and a little later this suggestion was successfully acted upon by Bettencourt and Serrano. In the same year, Vassale prevented the development in dogs of the phenomena following thyroidectomy by intravenous injection of an extract prepared from the removed gland, and in the following year Murray treated successfully a case of myxedema by hypodermic injection of an extract of thyroid gland. It was soon found that the same good results could be secured by the administration by the mouth of the gland itself or of an extract prepared from it, and the long record of successes that has marked the therapeutic employment of thyroid gland in one form or other elicits the warmest admiration for the scientific acumen and the professional zeal that guided the successive steps by which the underlying principles of organotherapy have been established upon a firm basis.

Within the comparatively short period

* Read before the Philadelphia County Medical Society, June 24, 1896.

† Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital.

covered by the discoveries narrated, a vast literature upon the subject has grown up, and the matter has attained an importance the magnitude of which we are even yet scarcely able to realize. Not only has the use of thyroid preparations been extended to the treatment of diseases other than those in which its utility was first demonstrated, but the principle on which this practice is based has been applied to a far wider range of therapeutic purposes, and almost every day brings some new development in this promising field. Already physiologists have succeeded in isolating from the thyroid gland a body designated thyroiodin, which is capable of much of the therapeutic usefulness of the gland itself. The benefits of the new therapy have accrued not only to the physician, but to the surgeon as well; for the latter has learned in the removal of organs physiologically concerned in some way in the bodily metabolism—and few, if any, organs are not so concerned—to leave behind, if possible, a portion of the glandular structure.

Of the results obtained in the treatment of myxedema and cretinism with thyroid preparations it is scarcely necessary to speak, so uniformly successful have these results been. To insure their permanence, however, the treatment must be persisted in, though occasional intermissions are attended with good effects rather than otherwise. By organotherapy there is supplied to the body a substance or substances essential to metabolic equilibrium, but wanting through glandular deficiency. The effect ceases with the withdrawal of the agent with whose aid that equilibrium is artificially reëstablished. It must at the same time not be forgotten that the glandular preparations thus used are capable of harm when employed in excess, and appropriate precautions should in all instances be observed to prevent deleterious effects.

In view of the pronounced effects of thyroid therapy upon the cutaneous and subcutaneous and allied structures, as observed in the treatment of myxedema and cretinism, it was an easy step to the employment of the same measure in the treatment of other diseases in which the skin is affected. The results secured in the treatment of obesity with thyroid preparations have been scarcely less successful than those in myxedema and cretinism and do not require extended consideration.

In 1893 Bramwell reported before the British Medical Association cases of psoriasis treated with thyroid extract, with results "at once surprising and gratifying." Others have had a similar experience. A successful result has also been reported in a case of syphilitic psoriasis in which other measures had already been employed without relief.[1]

Believing that the special susceptibility to tuberculosis manifested by cases of myxedema might be due to the absence of thyroid function Bramwell[2] was led to employ thyroid extract in the treatment of lupus, and the results were so favorable as to suggest the applicability of the same method in the treatment of other forms of tuberculosis. Thyroid extract has further been used in the treatment of eczema, dermatitis exfoliativa, rosacea, universal alopecia, pityriasis rubra, ichthyosis, scleroderma and xeroderma, with varying, though in general not disappointing, results. It has also been suggested that the remedy might prove useful in the treatment of leprosy, erysipelas and carcinoma. In the case of a young woman presenting an hypertrophied scar of the face White[3] observed reduction in the size of the disfiguring cicatrix in the sequence of thyroid therapy in conjunction with topical applications of collodion, after other measures had failed.

Bramwell[4] has reported excellent results from the employment of thyroid extract in the treatment of tetany, and from the association of this disorder in infants with rickets and laryngismus stridulus he has suggested the possible efficacy of similar treatment also in these latter conditions. Perhaps, too, the same procedure might be effective in other spasmodic and convulsive disorders. Cases of tetany successfully treated with thyroid extract have also been reported by other observers.

Thyroid extract has been used in the treatment of cases of rachitis, associated

[1] Gordon: *British Medical Journal*, No. 1726, p. 186.
[2] *British Medical Journal*, No. 1737, p. 786.
[3] *University Medical Magazine*, August, 1895, p. 812.
[4] *British Medical Journal*, No. 1796, p. 1196.

with anemia, with resulting general improvement and gain in weight, but without appreciable changes in the bones.[6]

The improvement in the mental state noted in cases of myxedema and cretinism subjected to thyroid therapy naturally led to the employment of thyroid preparations in the treatment of insanity. According to Bruce[6], the remedy is especially useful in cases of insanity at the adolescent, climacteric and puerperal periods; when recovery is slow; and in cases of long standing with a tendency to dementia. It is contra-indicated in cases of mania attended with acute excitement, rapid loss of weight and danger of exhaustion from malassimilation of food.

Reports of the results secured in the treatment of exophthalmic goiter with preparations of thyroid gland have been varied and conflicting — improvement being noted in some cases, aggravation in others. In the few cases in which I have adopted this plan, the resulting improvement was not greater than I have observed following the administration of strophanthus or the salicylates. Successful results have also been reported from similar treatment in cases of simple goiter, especially of the parenchymatous variety. Relief likewise was afforded in a case of exophthalmic goiter in which thymus gland was administered in mistake for thyroid.[7] In a case of exophthalmic goiter, complicated by scleroderma, the symptoms of both morbid conditions were relieved by treatment with thyroid gland.[8]

Having observed in two cases the development of osteo-arthritis in the sequence of removal of the uterine appendages, Macalister[9] learned, upon inquiry in a number of other cases, that some disorder of uterine or ovarian function had preceded the articular disease. As a result of these and other observations, he formulated the hypothesis that the glandular structures of the body elaborate substances that exert a controlling influence over the growth of individual tissues, and that an excess or deficiency of any tissue-element is attributable to the absence or perversion of the secretion that physiologically controls the growth of that particular constituent. In accordance with these views, he employed thymus gland in the treatment of a case of pseudo-muscular hypertrophy, upon the assumption that the symptoms of this disease are dependent upon the removal of an influence inhibiting the growth of the fibrous parts of the muscles, in consequence of premature atrophy of that gland; and in a case of lymphadenoma in an old man, he administered a mixture of red and yellow bone-marrow in equal parts. Lépine[10] has reported two cases of muscular dystrophy in which dynamic improvement, without other change, followed thyroid treatment.

Looking upon the red marrow of bone as the chief agent in promoting the development of red blood-corpuscles, Mann[11] was led, in 1894, to use a glycerin extract of marrow obtained from the long bones of calves, in the treatment of anemia; and in a series of cases of varying kind and origin, encouraging results were secured. A little later, Fraser[12] reported a case of pernicious anemia in which remarkably satisfactory results followed the employment of bone-marrow, in conjunction with arsenic, iron and salol. Since this time, a considerable number of cases of grave anemia of varied type have been reported, in which bone-marrow was used, and the results, while in some degree conflicting, are on the whole encouraging and justify the further employment of the remedy. From the evidence that has accumulated, there can be no doubt that bone-marrow taken by the mouth is capable of favorably influencing the state of the blood, and as anemia arises from a multiplicity of causes, it should not occasion surprise that any remedy should fail in some cases.

In 1894, Bigger[13] reported a case of leukemia in which recovery followed the therapeutic administration of bone-marrow, after arsenic and iron had been employed without success. Lawrie[14] has

[6] Heubner: *Wiener Klinische Wochenschrift*, May 26, 1896, p. 452.
[6] *Journal of Nervous and Mental Science*, xli., January and October, 1895.
[7] Owen: *British Medical Journal*, No. 1781, p. 361.
[8] Grunfeld: *Wiener Medizinische Wochenschrift*, 1896, No. 20, p. 807.
[9] *British Medical Journal*, No. 1684, p. 729.
[10] *Lyon Medical*, 1896, No. 19, p. 35.
[11] *Lancet*, No. 3680, p. 599.
[12] *British Medical Journal*, No. 1774, p. 1172.
[13] *Lancet*, No. 3708, p. 682.
[14] *British Medical Journal*, No. 1770, p. 1238.

also reported a case of leukemia successfully treated with bone-marrow. Bone-marrow, in conjunction with splenic tissue, has also been successfully employed in the treatment of malarial cachexia.[15]

Having observed spontaneous disappearance of the symptoms of exophthalmic goiter in a case complicated by the development of splenitis—probably of traumatic origin—and the formation of a splenic abscess, subsequently evacuated, Wood[16] was led to employ hypodermically a glycerin extract of beef-spleen in the treatment of a later case of exophthalmic goiter, with results that were in every way gratifying.

For a long time, physiologists have realized the fatality of total extirpation of the pancreas, and pathologists had early observed changes in the pancreas in fatal cases of diabetes, examined after death. It is, however, only within recent years that experimental removal of the pancreas has succeeded without immediate death; and under these circumstances glycosuria, polyuria and wasting invariably developed. Here, again, it was found that if a portion of the gland were permitted to remain or were grafted in a new situation, the symptoms failed to appear. Pancreatic preparations have been employed in the treatment of a number of cases of diabetes in the hands of different investigators, with resulting improvement in some cases.

It is the consensus of opinion that the symptoms of Addison's disease are dependent upon changes in the suprarenal bodies; and in conformity with this view a number of clinicians have employed suprarenal extracts in the treatment of that disease.[17] Oliver, who, in conjunction with Schäfer, has made a study of the physiologic action of suprarenal extract, recommends its use also in cases attended with loss of vasomotor tone, in exophthalmic goiter, in cyclic albuminuria, in diabetes insipidus and diabetes mellitus, and in cases of capillary hemorrhage. In cases of anemia thus treated, he has observed a rapid rise in the percentage of hemoglobin.[18]

In a case under my observation, presenting Addisonian symptoms, appreciable benefit followed the use of such an extract. Post-mortem examination, however, failed to disclose distinctive changes in the suprarenal gland.

It has been shown experimentally that the symptoms resulting from removal of the pituitary body—lowering of temperature, anorexia, lassitude, convulsive movements and dyspnea—can be prevented by injections of pituitary extract. In some cases of akromegaly relief has followed employment of a similar extract.[19] In the discussion following the report of a case of akromegaly that it was my privilege to make to this Society in 1895[20] I took occasion to refer to the possible utility of a preparation of the pituitary body in the treatment of that disorder.[21] In accordance with this thought Mess. Armour and Co., of Chicago, at my request kindly prepared for me such an extract (of which one part of the desiccated product represented seven parts of crude pituitary body) of which I began the administration of one grain thrice daily, but the patient did not remain long enough under observation and no therapeutic effect was noted. At about the same period or a little later Marinesco[22] reported to the Société Médicale des Hopitaux three cases of akromegaly treated with pituitary extract in which symptomatic improvement resulted. Bramwell[23] and Murray[24] have employed thyroid extract in the treatment of akromegaly, but without pronounced effect.

Actuated by the results secured in the treatment of goiter with thyroid extract Reinert[25] was led to employ the prostate gland of steers in the treatment of four cases of prostatic hypertrophy, in two of which reduction in the size of the enlarged gland was noted. If these observations be correct the va-

15 Critzmann: *Presse Medicale*, 1895, No. 68, p. 507.

16 *University Medical Magazine*, February, 1895, p. 313.

17 Shoemaker and Wood: *University Medical Magazine*, February, 1895, p. 309. Rolleston: *British Medical Journal*, April 16, 1895, p. 745. Jones: *British Medical Journal*, August 24, 1895, p. 482. Oliver: *British Medical Journal*, August 31, 1895, p. 561. Sansom: *British Medical Journal*, November 16, 1895, p. 1235. Osler: *International Medical Magazine*, February, 1896, p. 3.

18 *British Medical Journal*, September 14, 1895, p. 683. *Pulse-Gauging*, London, 1895.

19 Caton: *Lancet*, February 9, 1895, p. 349.

20 *Transactions of the Philadelphia County Medical Society*, 1895, xvi, p. 308.

21 *Loc. Cit.*, p. 314.

22 *Mercredi Medical*, 1895, No. 46, p. 550.

23 *Atlas of Clinical Medicine*, vol. ii, p. 3.

24 *British Medical Journal*, February 9, 1895, p. 293.

25 *Centralblatt fur die Krankheiten der Harn- und Sexual-Organe*, B. vi, H. 8, p. 393.

lidity of the fact cannot be negatived by *a priori* considerations; although one would naturally look for therapeutic effects from prostatic administration in the presence of symptoms attributable to loss of function of the prostate in consequence of surgical removal or of disease. A parallel statement may be made concerning the employment of testicular extracts. At the same time it is not necessary to deny that from their nature all organic extracts may possess stimulating properties.

The most recent development in the domain of organotherapy consists in the employment of preparations of the ovaries of animals in the treatment of the symptoms resulting from removal of the functional influence of the ovaries in women either at the natural menopause or at that induced artifically by surgical intervention or by disease-processes. Observations upon these lines seem to have been made almost simultaneously and independently by Mainzer and by Chrobak in conjunction with Knauer. To the former belongs the credit of priority of announcement[26] who reports a case in which relief of symptoms followed use of an ovarian extract. Chrobak[27] had independently conceived the idea that the distressing symptoms so often observed after ovariectomy could be prevented by permitting to remain a portion of ovarian tissue and that they could be relieved when present either by ovarian grafting or by internal administration of some preparation of the ovary. Acting upon this thought he has of late years in operations upon the uterus and ovaries made a practice whenever possible of leaving behind a portion of ovarian tissue. He has, besides, during the past year employed an ovarian extract in a number of cases in which the ovaries had previously been removed and in one with normal genitalia in which profound climacteric symptoms were present. The results, so far as they could be analyzed, were satisfactory and encouraging. The experiments of Knauer,[28] undertaken at the suggestion of Chrobak, show not only that the ovaries are susceptible of successful transplantation, but also that they are capable of functional activity in their new situation.

In the foregoing account I have not attempted to enter upon an exhaustive consideration of the whole subject of organotherapy, but have endeavored merely to illuminate some of its more practical aspects. There is much yet to learn, perhaps not a little also to unlearn, but a good deal of what has been accomplished will permanently endure; while the outlook for the future is hopeful and encouraging.

SEVERE STOMATITIS FOLLOWING THE ADMINISTRATION OF POTASSIUM IODID.*

JAY F. SCHAMBERG, A.B., M.D., PHILADELPHIA.

The following case is deemed worthy of report on account of the important diagnostic and therapeutic problems which it presents for solution.

A. M., a female, fifty-four years of age, presented herself at the skin department of the Polyclinic Hospital, on the twenty-sixth of May, 1896, with multiple gummata of the tongue and a tubercular syphiloderm of the face. She was ordered potassium iodid in five-grain doses, to be taken thrice daily. The patient took the first dose on the evening of the same day. On the following morning, she experienced symptoms of conjunctival irritation, and at the same time some tenderness of the gums. Six days later, she again presented herself at the clinic. At this time the following phenomena were observed: The conjunctivæ were intensely

[26] *Munchener Medicinische Wochenschrift*, 1896, No. 12, p. 188.

[27] *Centralblatt fur Gynakologie*, 1896, No. 20, p. 521.

* Read before the Philadelphia County Medical Society, June 24, 1896.

[28] *Centralblatt fur Gynakologie*, 1896, No. 20, p. 524.

injected up to the corneal margin; there was a serous nasal discharge; the patient complained of frontal and malar pain; the saliva dribbled from the mouth; the breath was offensive; the gums were eroded, spongy and bleeding; there was distinct ulceration along the dento-gingival border, especially of the canine teeth. The iodid was continued in the same dose, and the patient was seen three days later. The stomatitis was somewhat improved; the conjunctivitis remained unchanged; the lesions upon the tongue and face were undergoing rapid involution. The dose of the drug was then reduced to two grains thrice daily, and an eye-lotion and mouth-wash ordered. From this time on, both the mouth and the eyes improved. At the present time, the conjunctivitis is well. The gums are still slightly congested and denuded of epithelium, but the fetor and the salivation have disappeared. The prescription was compounded at the pharmacy of the hospital, and the apothecary was emphatic in his asseverations concerning its accuracy. The patient was questioned as to the antecedent ingestion of mercury. She is a woman of fair intelligence and apparently has a good memory. She stated that she had taken no drugs for two or three years, with the exception of one bottle of a patent medicine, which she took about six months ago. She was subjected to repeated interrogation, but adhered to this statement. This information is essential to a proper consideration of the case, inasmuch as the stomatitis had all the features of the classic "stomatitis mercurialis." In fact, those who observed the case were inclined to the belief that the potassium iodid had simply set free hitherto insoluble mercurials which had been deposited in the various tissues. This eliminative action of the iodids has, however, been recently challenged.

Dr. J. William White, in his admirable article on the treatment of syphilis, in Morrow's "System of Genito-Urinary Diseases," says, "the observations of Melsens and Guillot, long quoted in support of this view (namely, that the iodids do good in syphilis by eliminating the mercury), have recently been contradicted by Suchoff, who asserts that the administration of the iodids really retards the elimination of mercury." Whether this be true or not, it matters not. The history of the case under discussion strongly militates against the view that the stomatitis is due to mercury eliminated by the iodid. Schuster has proved that all mercury is entirely removed from the system six months after its ingestion, even though a long course be taken. The patient took but one bottle of an unknown mixture six months ago, and prior to that time nothing for two years. It is extremely improbable that sufficient mercury could have been in the system to have produced the result narrated. We may, therefore, reasonably exclude mercury as an etiologic factor.

In studying the subject of iodism, one is struck by the fact that the iodids seem to be capable of setting up inflammations of almost any mucous membrane. Conjunctivitis, rhinitis, pharyngitis, laryngitis with edema, and bronchitis may all be produced by their administration. From *a priori* reasoning, therefore, it would not seem at all strange if the same drug were capable of producing a stomatitis. Lauder Brunton, Rilliet and other authors, indeed, do mention salivation among the rarer toxic effects of the iodids. It is to be deplored that the terms salivation and stomatitis are at the present time used indiscriminately. Salivation means merely an increased flow of saliva, a sialorrhea. We take it that the authors quoted refer merely to this functional change.

Bumstead and Taylor state that "salivation sometimes occurs after the use of the iodids, but is never so severe as that occasioned by mercury, nor is it ever attended by ulceration like the latter."

Fournier, in his incomparable work, "*La Traitement de la Syphilis*," says, "the iodids excite at times a certain degree of salivation. This salivation does not at all resemble that of mercury. It has neither the abundance, the odor nor the inflammatory phenomena. It is a cold sialorrhea, if I may use the expression, with absolute integrity of the mouth. It is at most comparable to the sialorrhea of pregnancy."

This is certainly a most formidable

array of opinion against the supposition that the iodids may produce a stomatitis such as the one in question. Nevertheless, Kaposi, one of the foremost German syphilographers, says that "the iodids may, in rare cases, cause a gingivitis and stomatitis." With these facts in mind, the following propositions are tentatively suggested:—

Sialorrhea is the first stage of mercurial stomatitis.

The iodids are freely eliminated by the salivary glands.

In some cases they may produce sialorrhea or salivation.

In extremely susceptible individuals, gingivitis and stomatitis have been produced (Kaposi).

In the case under consideration, the iodid idiosyncrasy was marked.

The possibility of mercurial stomatitis has been firmly eliminated.

This leads us to the expression of the opinion that the stomatitis reported was due to the administration of potassium iodid. This view is confirmed by the coincident appearance of the stomatitis with the other symptoms of iodism. After five grains of the drug had been taken, conjunctival irritation and tenderness of the gums manifested themselves synchronously. If potassium iodid can produce a sialorrhea, it may, in more susceptible cases, produce a stomatitis which, in still more susceptible individuals, may go on to ulceration. In other words, we may have as a result of the administration of potassium iodide a stomatitis which differs in no respect from *stomatitis mercurialis*.

COLLAPSIBLE AND REMOVABLE RUBBER BAGS FOR ALL FORMS OF INTESTINAL APPROXIMATION.—A NEW CONTINUOUS DOUBLE-KNOT INTESTINAL SUTURE.—A NEW ABDOMINAL RETRACTOR—SELF-RETAINING TENACULA.

A. J. DOWNES, A.M., M.D., PHILADELPHIA.

About three years ago I conceived the thought that the ideal method of doing intestinal approximation would be end-to-end union by means of a collapsible bobbin, which could be removed from a small slit in the bowel beyond the point of anastomosis. In 1893 Charles Lentz & Sons attempted to make for me such a bobbin out of metal. During the past winter I had them at work upon a bobbin of spring wire, ballooning, with a central constriction, and after use collapsing under pressure and lengthening into a narrow removable cylinder. While perfecting this instrument it occurred to me that an inflatable rubber bag or bobbin of the proper shape would be just the thing. I immediately sent diagrams and dimensions to the Davol Rubber Co., who promptly made me three sample bobbins, alike except in size. One of these I used in my first experiment on the dog. These were very similar to the Barnes uterine dilators. I subsequently improved the bobbin by having a central band one-sixteenth of an inch wide, which thickened and preserved under distention the constricted part between the spherical ends. These bobbins—I have not decided on a better name—which we will call No. 1, are intended strictly for end-to-end anastomosis. They differ only in width. The bobbins proper are two and one-half inches long with a tube-extension at one end through which the cavity can be filled. The spherical ends, both alike collapsed, measure from one to two inches, increasing by a quarter of an inch for the different sizes. The diameter of the collapsed bobbins at the constricted portion is three-eighths of an inch less than at the center of the spherical ends.

My next bobbin, which we will call No. 2, differs only from No. 1 in that the spherical ends are of unequal dimensions. Its use is to unite hollow viscus, such as the stomach, or a section of large bowel with intestine of narrower caliber. Hence it can be used in pylorectomy, gastro-enterostomy, and ileo-colostomy.

These two varieties of bobbin, after completing the anastomosis, are removed from a very narrow slit in the long axis of the bowel beyond the point of union. The incision will vary from

*Presented to the Philadelphia County Medical Society, June 24, 1896.

one-fourth to less than half an inch. The end of the filling tube of the bobbin is brought out of the bowel through this slit, the bobbin is gently emptied and removed, and the small incision closed by a few sutures.

My next bobbin, No. 3, is for lateral anastomosis. In this the filling tube enters the bag at its constricted portion. The bobbin is introduced into the bowel and a few preliminary sutures taken. It is then filled with fluid and the bowel sutured over it, except where the tube emerges; here the last two or three stitches are left loose. The bobbin is now emptied, removed, and these few sutures fastened.

It was not until after I had devised this lateral anastomosis-bobbin, removable just before the completion of suturing, that I thought of using the same sort of bobbin for the end-to-end method. I finally had bobbin No. 4 made, which comes in the same sizes and styles as Nos. 1 and 2, except that the filling tube enters the constricted part of the bobbin and it is removed before complete union of the edges of bowel has been effected.

This communication is but a preliminary one. Careful experimentation must yet develop which is the better style of bobbin, the one removable from small extra incision or not.

While experimenting with these bobbins I improvised a suture which I believe is new, especially in intestinal surgery. It is a continuous double-knot suture. With it we can use the Lembert stitch or not as we elect. The Lembert stitch gives more perfect and broader apposition of serous surface, but I believe at the expense of the caliber of the bowel from subsequent constriction. In my experiments so far on the living animal I have used this continuous suture in the following manner: The needle, threaded with long fine silk, is entered at right angles to the long axis of the bowel, about one-eighth of an inch from its cut edge, passes through the serous, muscular and cellular coats, emerging from the bowel-wall just above the mucosa; it then crosses to the opposite section of the bowel, enters below the mucosa, passes through the cellular, muscular, and serous coats, emerging as near the end as it entered on the other side. This first stitch is tied with a surgeon's knot and the free end of silk cut short. The needle, threaded with the long end, passes through the ends of the bowel about one-twelfth of an inch from the first stitch and in the same manner. The needle is brought across to the opposite side, a double knot taken in the silk just where it had entered for the second stitch, the silk tightened by pulling in the direction of the first stitch, and the knot then set by pulling in the direction of the next stitch. This continues until the circumference of the bowel is united. When the suturing is complete the knots are all on one side, and the stitches placed at right angles to a perfect cross section of the bowel.

When we remove the bobbin before complete suture, the last few stitches will not be placed as true as the others perhaps, and this is an argument against this variety of bobbin, in end-to-end anastomosis. In the method of suturing just described there is less apposition of the serous layers than when the Lembert stitch is used, but there is obtained, what is not claimed for any other method of intestinal suture, almost juxtaposition of the edges of the various coats. The cellular coats meet exactly, the muscular hardly less so, and the serous slightly. It is the simplest thing to take an extra running stitch to obtain more serous apposition.

I am at present conducting a series of experiments on animals, the results of which will be given in a later communication. Those already performed seem to indicate that, with these bobbins and a suture as rapid of application as that described, and as efficient, intestinal approximation will be robbed of many of its difficulties.

The abdominal retractor consists of a piece of wire shaped like a horse-shoe, and provided with retracting blades which project into the abdomen and are prevented from slipping by means of small tips. I have used it in a few abdominal operations, including hysterectomy, appendicitis and cholecystenterostomy.

I also wish to exhibit small self-retaining tenacula with points like the bullet-forceps. They are used for holding the bowel in apposition over the bobbin in place of the preliminary stilette, by assisting in saving time.

UNUSUAL SYMPTOMS CONNECTED WITH TEETHING.

W. G. WINNER, M.D., WILMINGTON, DEL.

Some time ago I noticed in a medical journal an article on teething wherein the assertion was made that since it was a physiological action it could not be otherwise than a perfectly harmless procedure. However, that which has been apparently proven by almost daily observation to be a cause of serious trouble cannot be made otherwise by any theoretical reasoning. Since the conditions of the following case were of such a nature as to be a cause of great anxiety both to the physician and to the friends of the little patient the history may be of interest to others.

On March 6th, 1896, I was called upon to attend an infant five months of age, which presented symptoms of a cold. During this day the child's condition rapidly grew worse and the next two or three days decidedly more marked symptoms developed. The cough was very frequent, harsh and racking—the child crying out in pain—the pain and cough interfering very seriously with its sleep. Some slight fever existed. Respirations were sixty-five to eighty per minute, irregular in character, the breath being held for a while then followed by very rapid catchy respiratory movements. Pulse 150 per minute. A red spot appeared on middle of both cheeks. On account of the foregoing symptoms it was thought that pneumonia had developed but the respiratory murmur and other chest conditions were not distinct. A diarrhea developed about the second or third day of the illness, there being from ten to fifteen movements a day, stools mixed with lumps of undigested milk-curds and the general appearance of grass-green color. Abdomen somewhat swollen and tympanitic. Treatment was first given to the coryza and later to the diarrhea which had developed. It was thought that the pain which at first caused the child to cry out and later to moan more or less constantly was caused either by the racking cough or by the abdominal conditions, these both being sufficient to be decided factors in its production; but with the improved condition of bowels there was scarcely no abatement of the moaning nor of the cough. In fact the improved condition of the bowels was accompanied and followed by certain complications apparently of the brain. There was observed a rolling of the head from side to side, a frequent carrying of the hand to the head, a thickening of the muscles of the back of neck, head drawn backward, and irregular contraction of pupils existing. There were likewise sinking spells from which it seemed impossible for the child to rally, cold-sweats appearing on forehead, extremities cold, heart's action weak, child's skin turning to a bluish color and other symptoms portending a speedy collapse, the child for awhile ceasing to take any nourishment. A careful examination of the gums had been made at the beginning of the child's illness but there was no marked condition to indicate that teething was a factor in causing the existing troubles. Further observations were made and about the ninth day of the illness coincident with a slight improvement of its condition, the gum over one of the lower central incisor teeth showed that a tooth was nearing the surface. The following day an incision was made through the gum over both the central incisors and this was followed by a rapid subsidence of all its trouble, and a gradual return to complete health. The termination of the case in this manner was certainly more than had been expected for a few days. Before the appearance of eruption of the tooth the child's death was looked for at any time, and for about three days but very little nourishment had been taken, owing to its weakness, swallowing of its milk being done partly by force work.

In conclusion it might be interesting to note that nearly eight years ago I was called to see another child in this family that had been taken with a convulsion. Upon examination I found

that the gum was swollen over the lower incisors and an incision was made down to the approaching teeth thereby giving relief from the spasm, the child passing into a calm slumber from which it awakened in apparently as good a condition as it had been prior to the spasm.

COMMUNICATIONS.

BICYCLE SADDLES AND THEIR RELATION TO RIDERS.

WM. H. BURR, M.D., PHILADELPHIA.

The question of the bicycle saddle is becoming one of interest and of large relative importance, when one considers the enormous extent of cycling at the present time. Up to two years ago, bicycling was looked upon as more or less of a fad, popular with a certain class who were always on the lookout for something new under the sun, but sure to have its decline and final demise according to the natural law that those hobbies that are ridden to death are sure to play themselves out. Much to the astonishment of the prophets in Israel, each year saw a large accession to the votaries of wheeling, and the business of the manufacture has so far overreached other enterprises that we find bicycles exposed for sale in connection with almost every kind of merchandise.

The whole subject of the present and future relations of this new mode of locomotion to men and women, as regards its physiological and hygienic aspect, is one that must engage the attention of the professional and scientific man. We use the future tense in this connection to impress upon any one to whom this may come the fact that it is more a question of the future than the present.

Much has already been written about the injurious effects of bicycling, both to women and men, but it will take time to prove even the most reasonable theories. In the meantime, few desire to make themselves subjects for experiment, and there seems to be a large demand for something out of the ordinary in the way of bicycle saddles. There are conceded to be two elements of danger to be apprehended from ill-fitting saddles, and they may be briefly stated as being danger from spinal irritation, resulting from constant jar, acting through a springless saddle, and danger from the irritation and pressure upon the soft parts forming the base or floor of the pelvis.

The latter is the most grave, and there can be no question but that serious injury is likely to occur from this pressure. It is useless to compare the seat on a bicycle with that on horseback, but even if the comparison were made applicable, it would only be necessary to assert that horseback exercise indulged in excessively is followed by special lesions associated with that kind of exercise.

So generally have the injurious effects of ordinary saddles, when used by women, been commented upon, that we will simply pass that over as self-evident to all professional men. But there may be an element of danger to male riders to which so far we have seen no reference and to which it may be well to call attention.

A prominent Philadelphia physician recently remarked upon a prominent element connected with bicycle riding that he thought deserved attention. He gave it as his opinion that in a good many cases sterility in males was likely to be a common result. As an instance of the tendency of constant pressure upon the soft perineal structures to produce this result, he mentioned one or two Asiatic tribes who live entirely on horseback, and who are phenomenally effeminate or emasculate, and commonly

sterile. That this condition would be a public benefit so far as some of our young men are concerned, none would deny, but if it was likely to become at all universal, it would become a public injury.

Fortunately for all concerned, those who make a business of manufacturing bicycle accessories are pressing forward in order to fill the emergency, and numerous models of saddles have been devised. The object in all of them is apparently to build a saddle in such a manner that the rider, in sitting upon it, shall occupy the natural position which one assumes when seated on a chair, and shall be entirely free from that pressure which must be present when the rider is suspended upon a saddle of ordinary make. The writer, having given the matter some thought, determined some time since to devise a saddle which should meet all indications for comfort and satisfy the demands of the average rider. In the meantime, however, several saddles appeared in the market which included, to a large extent, the plans already conceived, showing the truth of the old adage, that frequently ideas of importance are developed simultaneously in the minds of different individuals.

In presenting our idea of a comfortable and hygienic saddle, it might be well to refer in brief to some of the saddles in ordinary use, and later compare them with the more modern patterns.

Ordinary saddles may be divided into two classes, both of which are supposed to follow the idea of the equestrian saddle, but which differ in very important particulars. They may be differentiated as saddles with springs and those without, and of the two classes the former, though designed for the comfort of the rider, are, perhaps, the more dangerous. The important particular in which they differ from ordinary equestrian saddles is the fact that the pad or seat is suspended between peak and cantle, and there being no support across the width of the saddle, the rider is in most cases suspended upon a narrow ridge or leather strap, which follows the curve of the soft parts at base of pelvis from front to rear, and brings a constant pressure to bear on those parts.

If an equestrian simile is to be sought for, the case might be likened to riding a sway-back, attenuated, bare-back mule. A large class of riders, especially those among the scorching class who ride hard, claim that they do not have use for the saddle, as they ride on their pedals. This is almost a tacit admission that they cannot make use of the saddle even if they desire doing so.

There is, however, a large and increasing class of riders who ride for the pleasure there is in it, or for business purposes, and not simply to get there ahead of the fast express. To these some of the more modern saddles may appeal. The great point aimed at in this latter class of models is to do away with the objections previously referred to and to construct a saddle that will not interfere with free and speedy action, but at the same time be a comfort to the rider, and not followed with evil results.

The writer has tried several of these models and has a good word to say for all of them. They are all a move in the right direction. One of the most popular of the recent saddles which has given us the utmost satisfaction and comfort is that known as the "Christy." Leather is used for the padding, a very important point, as, in the experience of the writer and that of many of his riding friends, the heat developed on rubber pads, as well as their unequal compression, condemns almost all the different patterns of pneumatic saddles.

The subject sketchily embraced above and only faintly outlined is, as intimated, one that deserves more serious consideration than it has yet received from the profession. If all the world will go a-wheeling, it is important, at least, to have some idea of the dangers to be avoided in such exercise. With each new method of motion are connected new and unforeseen complications incidental thereto.

Centenarians.

A census of centenarians recently taken in France, gives 213 persons of 100 years or over, 147 of them women and 66 men. The oldest was a woman who had just died at 150, in a village of the department of Haute Garonne. Nearly all the centenarians belonged to the lower ranks of life.

CURRENT LITERATURE CONDENSED.

Suture of Uterus in Cæsarean Section Versus Total Extirpation.[1]

The familiar arguments advanced in favor of suture of the uterus after hysterotomy are:—(*a*) The woman is left with her generative functions unimpaired; (*b*) the operation is simpler than hysterectomy, there is less shock, and less danger of sepsis; (*c*) statistics are in favor of conservative operation. It is at best a doubtful benefit to preserve the generative functions in a woman with an absolute impediment to natural delivery, if for no other reason than that of the risk of a second pregnancy. So far as my experience goes there is less difference in the degree of shock than is generally thought, and in cases where there has been no previous manipulation by hands of doubtful cleanliness, the danger of sepsis is no greater. Former statistics prove nothing since it is well-known that they, especially for the Porro-Cæsarean operations include the majority of the "late" or unfavorable cases.

The advantages presented by the radical operation, total abdominal extirpation of the uterus and adnexa are: (*a*) Rapidity of execution, often not more than five minutes being necessary for the ligation of the broad ligaments and separation of the bladder; (*b*) by removing the entire uterus there is reasonable certainty that no infected tissue has been left within the abdominal cavity; (*c*) neoplasms of the ovaries or uterus or diseased appendages are removed at the time instead of being left to give future trouble; (*d*) convalescence is quite as rapid as when the uterus is sutured. The objection with regard to weakening the vaginal roof by removing the cervix is largely theoretical. In my observation of about 100 cases, some cases for three years, I have not found a single case of vaginal enterocele.

Of course the wishes of the patient, when they really carry weight, should be considered, but there are very few such. Under some circumstances, the surgeon's duty is clear. The presence of extensive disease, or of neoplasms of the uterus and adnexa, bring the case under the ordinary rules of modern surgery. Absolute failure of the uterus to contract after evacuation of its contents (a rare, but not impossible contingency), and undoubted, or even suspected, infection of the organ were long ago recognized as indications for Porro's operation. To this may be added a dyscrasia (as tuberculosis), which renders a subsequent pregnancy highly undesirable. There remains the class in which dystocia is due to marked pelvic deformity.

[1] Dr. Henry C. Coe, Professor of Gynæcology in the New York Polyclinic.

Measures to Prevent Physicians from Contracting Contagious Diseases.[2]

The air passages are the most dangerous avenues for the entrance of disease germs into the system, and large numbers of physicians are annually falling victims to contagious diseases so incurred. There is in individuals a varying degree of resistance to the successful entrance of specific diseases in all healthy human beings. This resistance is of two kinds: First. The resistance of an unbroken surface. Second. The resistance of the normal tissues and fluids of the body, including the destructive power of the blood serum on the microscopic causes of diseases.

Atmospheric temperature, and other conditions of the atmosphere, have to a great extent a controlling influence over the entrance of most of the specific diseases. As a rule, all inflammatory diseases of the throat, air passages, and lungs, are increased by exposure to a cold atmosphere. The same is true of all specific diseases which enter the body by way of the air passages or lungs.

Diphtheria is most prevalent during the autumn and winter months, and that this indicates that exposure to the inhalations of a cold atmosphere increases the danger of contracting diphtheria. Among the numerous prophylactic measures, special attention should be given to keeping the secretions of the mouth and throat healthy by the free use of chlorate of potassium gargles and tab-

[2] Read June 3, 1896, before the Wisconsin State Medical Society, by J. J. Howard, Columbus, Wis.

lets. If suffering from nasal catarrh, a mild astringent disinfectant douche or spray should be used several times daily.

Special attention should be paid to the disinfection of the sputa of all consumptive patients, and the patients should be provided with cuspidors that could be burned. For the prevention of pulmonary tuberculosis there should be disinfection and destruction of all infected sputa, avoiding the inhalation of the dust from rooms that were, or had been, occupied by consumptive persons. The physician should pay especial attention to the ventilation of the rooms of his consumptive patients; the air should be taken in near the top of the room, and find its exit near the floor surface. The infection of tuberculosis is apt to follow pneumonia, and acute affections of the throat and upper air passages.

To prevent taking typhoid fever, avoid inhaling the emanations from the dejecta, which should also be thoroughly disinfected. The hands of the physician should be washed with soap and water, and dipped in a 1-2000 solution of bichloride of mercury. It is manifestly the duty of the physician to protect himself, to say nothing of others, from infection, and the instinct of self-preservation is so strong that it would seem unnecessary to inculcate it. The self-satisfaction of ignorance is, however, equally strong, especially when it relates to matters of hygiene, and therefore improvement in the prevention of infectious diseases can only be reached when hygiene is taught thoroughly in our schools and colleges, and recognized as the most beneficent of the sciences.

Meat Poisoning.[3]

A curious case of poisoning has recently been reported from Sheffield. A. M. Stead and his family ate heartily of brawn, and shortly after all became ill with violent abdominal pains accompanied with much vomiting. Within a short time all the younger members of the family fully recovered, but the father developed symptoms of local blood poisoning, and his leg had to be amputated above the knee.

It is impossible, or at any rate difficult, to discuss a case on the meagre facts supplied by a lay journal, because we cannot be certain of the sequence and consequence of events. If, however, the data are correct, the case is an interesting one, and serves to remind of a fact which, perhaps on account of its rarity, is not sufficiently kept in mind. We mean that septicemia, taking this term in its strict pathological sense—that is, hemic infection—may occur without any external wound, as apparently it did in this instance, from the alimentary tract.

It seems that in this case organisms found access to the bone marrow, whither they must have passed from the intestinal tract. It is now generally acknowledged that the bone marrow forms a good resting place for micro-organisms. Thus the typhoid bacillus after death can frequently be recovered from the bone marrow, and on inoculating animals intravenously with typhoid bacilli, the latter may be found two to three weeks later in the marrow and spleen, when the heart's blood is already free from them. In the case of typhoid fever and other infections, pyogenic micro-organisms frequently find their way to the bone marrow, producing an osteomyelitis. It may be said that in the case of typhoid fever the intestines are ulcerated, and that thus a ready entrance into the circulation is offered to the bacteria.

This explanation does not, however, suffice in the case of other infective fevers, such as measles, scarlet fever, etc., where osteomyelitis is not unknown. We must allow that micro-organisms may find their way into the circulation, into the bone marrow, subcutaneous tissue, serous membranes, etc., without their being an obvious breach of surface or obvious communication with the circulation. Klein further has shown, to come back to our case, that a septicemia may be produced in animals by consuming unsound food, or by feeding them with pure cultures of certain bacteria, which, on subcutaneous injection, have no effect on them.

This, then, is the important lesson that food poisoning may lead to an infection, either a local one of the alimentary tract, a gastro-enteritis, or a gener-

[3] From the *British Medical Journal*, June 13, 1896.

al one, a true septicemia, and that just as in the case of typhoid enteritis distal suppurative lesions may appear, either in the bones or subcutaneous tissues, so also it is not impossible that in an enteritis produced by other infective agents similar lesions may appear.

The etiology of infective endocarditis is often obscure, and its possible intestinal origin in some cases is perhaps never thought of. In typhoid fever, ulcerative colitis and dysentery and infective endocarditis occasionally is the fatal complication, and in the case of typhoid fever either pyogenic organisms or Eberth's bacilli are found in the heart, generally the former. These considerations should invite us to extend our field of clinical observation, and to remember that if the outer surface of the body is but a slender barrier against hemic infection, the inflamed mucous membrane of the stomach and intestines requires as much attention. Obscure cases of pyemia, septicemia, or infective endocarditis may, in some cases at least, have their bacterial source in the diseased surface of the gastro-enteric tract.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

The Iodates in Therapeutics.

For parenchymatous injections (*Journ. de Méd.*, 1896) the following formula of iodate of mercuric-oxide is recommended:—

℞

Aq. destill.	10	0	(℥ijss).
Iodat hydrarg. oxidin. .	0	115	(gr. jss).
Potassii iodidi.	0	08	(gr. j).

A Pravatz's syringe contains 0.10 of iodate. Iodate of silver is indicated in acute and chronic enteritis. It can be prescribed in doses of five to ten milligrammes. It, as well as the other iodates, is an excellent astringent for the bowels and has no noxious action on the stomach. Iodate of lithium can be employed in doses of 0.10 (gr. ij) for hypodermic injections in case of uric acid diathesis or in nephritic colics. For gout pills of 0.15–0.20 (gr. iij–gr. iv) are given three times a day. Iodate of mercury has never caused any kidney trouble nor stomatitis. Iodate of quinine acts as an excellent tonic for the nervous system and as antineuralgic in doses of 0.05–0.10 (gr. j–gr. ij) for hypodermic injections or for ingestion. It has never caused any abscesses nor pain. The maximum dose of iodate strychnine is six milligrammes. Higher doses provoke toxic symptoms. Iodate of codeine has an antineuralgic action more remarkable than the other salts of codeine, especially in hypodermic injections; the same time it produces an hypnotic influence. The digestion is not troubled. It is a good succedaneum to morphine, especially in chronic use of the drug. Internally it can be used in considerable doses, for hypodermic injections do not give more than three to five centigrammes; it also relieves coughs. For iodate hyoscini the maximum dose for injection is two milligrammes; internally five mgrm. It is two or three times more active than the other salts of hyoscine. As a mydriatic in iritis or keratitis the solution of 0.05–0.06 per 100 is employed. The iodate of atropine in eye-practice is more advantageous than the other preparations of the same substance, on account of its stability; the mydriatic action is more rapid and passes also more rapidly, when used in a solution of 0.5–1.5 :100.

Treatment of Chilblains.

Baths of fifteen to thirty minutes, four times a day, in a warm solution of acidum tannicum (1 :100), and two baths of fifteen minutes in water with soap, are

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

recommended in *Rev. Méd. de la Suisse*, December, 1895.

Treatment of Heart Disease with Massage.

Dr. Zablodovsky (*Wratch.*, 17, 96) describes this new method of treatment. The patient lies on his belly and the thorax is elevated by means of a pillow. The physician sits at the left side of the patient, and with a closed hand beats slightly the vertebral column for two minutes; then he rubs the dorsal region, from the sacrum toward the neck, with the phalanges of the four fingers extended. In order to excite the sensitive nerves, he uses the pressure with both thumbs upon the lateral region of the vertebral column, from the sacrum toward the neck. Afterwards he proceeds with the massage of the muscles of the posterior side of the inferior members. With this the first part of the operation is terminated.

The patient is given a lateral position, first on the right side and then on the left, and the abdomen massaged laterally. At last the patient takes a dorsal position and the whole abdomen is massaged. This massage is different from the ordinary massage in that the transversal movements are followed by longitudinal, from the pubis toward the sternum. Afterward the larynx and the superior region of the respiratory system are to be treated. The Adam's apple is seized with the full hand and is moved laterally and longitudinally. After this comes the massage of the superior members and of the anterior face of the inferior members. At last, the trunk being immobile, the different articulations are massaged. Dr. Zablodovsky employs this method of massage in cases with small lesions as well as in cases where the compensation is far from being sufficient. As to the cardiac region, on account of its sensibility, massage must be proscribed at least in the beginning.

The capital points of Zablodovsky's procedure are: First, excitation of the sensitive nerves of the back and neck, the intercostal spaces, in short, of all those regions where the excitation is well supported; second, excitation of the vagus by percussion of the dorsal region. These two maneuvres render the circulation as normal as possible. The results obtained by the author are very encouraging; the palpitations and sensation of anguish disappear or become lessened; the dyspnea diminishes, and sleep is re-established. In one case of a woman, fifty three years old, in six weeks massage rendered the attacks less frequent and less violent. The patient's sleep became perfect and she was even able to walk, which was absolutely impossible before this treatment. In two other similar cases the results have been identical. Dr. Zablodovsky also obtained a good result in one case of Graves' disease, where the treatment consisted of compression on the thyroid gland, which diminished in volume and the palpitations became less frequent.

Treatment of Acne Rosacea.

Dr. Heuss (*Corresp. Schw. Aerzte*, 1896) recommends warm compresses for acne rosacea. For the nose, use compresses or small sponges soaked in hot water. If the skin is too greasy, a warm solution of borax (2–3 per 100) is to be employed. The compresses must be applied for eight or ten seconds at a time and renewed three or four times. Afterward the nose is sprinkled with an ordinary powder if the skin is oily, and covered with any pomade if the skin is dry. During the application of the heat, the cutaneous vessels are dilated at maximum and contracted during the intervals. They gain consequently in elasticity, and the nose becomes again normal. To this treatment is added a medical treatment, and the whole procedure being as follows: In the morning, application of hot compresses; in the afternoon, sprinkling with any powder or covering with any pomade; in the evening, friction with sulphur-pomade (10:100).

Iodoform Internally.

Dr. Degeiter (*El Progr. med. d. Chile*, 1896) notices the following indications for using iodoform internally:

1. As an hemostatic, through its influence on the vasomotors of the peripheral vessels. It can be employed in hemorrhages of any nature and any organ: nose, lungs, uterus or kidneys. The obtained results were always favorable, as is demonstrated by the history of seven cases reported by the author.

2. Iodoform acts also as an excellent antiseptic and helps the cicatrization of wounds and ulcerations. It is especially active in ulcerative gastritis of different kinds, as well as in diarrhea without ulcerations.

3. Owing to its anti-neuralgic properties, iodoform is often useful in different neuralgias, even in neuralgias of internal organs and round ulcer of the stomach.

The drug should be administered in pills of 0.02–0.05 (gr. ½–gr. j.), associated with tannin (gr. j.) or alone. The patient should take three to four pills in twenty-four hours.

Treatment of Sunstrokes.

The danger of the sunstroke (*Therap. Woch.*, 1895) is in the great hyperpyrexia. This abnormally elevated temperature cannot be removed by the usual antipyretics. Cold baths combined with intensive frictions of the skin and wetting the head with ice-cold water are very efficacious. In addition to this it is useful to bleed. In thirty out of 100 cases of sunstroke one observes convulsions, especially in the serious cases. In the course of the disease recurrence of elevations of temperature and severe headaches are observed. Quinine is forbidden, since it provokes a congestion of the brain, while bleeding is particularly indicated on account of the congestion of the meninges. The skin of the region of the neck must be rubbed. In case of an abnormally rapid pulse veratrum viride and sodium bromide are indicated; on the contrary if the pulse is weak administer ergotin. With injections of ice-cold water into the colon the internal high temperature can be combated. In case the internal temperature is elevated as well as the external, warm baths and warm injections into the bowels are indicated, even in these cases where in consequence of using cold baths a collapse occurred.

Treatment of Pleurisy with Massage.

Kemper (*Revue. Thérap.*, 15, 1895) gives the following rules for the massage of the thorax in pleurisy. The patient is placed on the non-affected side, the head on a hard pillow and the arm of the diseased side on the head. In this position of the body the healthy part of the thorax is compressed and cannot get an expansion in inspiration, while the diseased side is in a favorable position for inspiration. The patient keeps this position for some minutes and makes sixteen to twenty inspirations in a minute. In the same time the physician massages the intercostal muscles. At each inspiration the operator compresses the part of the thorax where the exudate is so that under the influence of the inspiration and the compression of the hand the fluid leaves its former place. The level of the fluid changes and getting in contact with the healthy pleura may be reabsorbed. In order to act directly on the exudate, Kemper produces some quick movements with his fore-arm on the diseased side.

In eighteen cases of exudative and in two of dry pleuritis treated by the author the respiration became stronger and the level of the fluid decreased; pain disappeared, and generally speaking the patients were greatly improved.

Supererogatory "Don'ts."

An exchange says, among a number of things a surgeon should not do, he should not fail to use soap. He should always wash his hands after operating, and "should not take home any sponges which have been soaked with pus." We have heard of young children filling their pockets with ice cream when starting for school. We have heard that the pocket of the small boy sometimes contains as high as a thousand different articles. We have heard that it is necessary for a woman to turn around four times in a street-car before she can find her pocket. But never, never have we heard before that a surgeon or any of his assistants was likely to carry around in the pocket a number of "sponges which have been soaked with pus."

Cholera had not so large a percentage of deaths in Germany as supposed. According to the *Medical Record*, in all 1,004 cases of cholera occurred between May 23 and the middle of December, 1894, in the German empire, out of which 490 ended fatally. These figures, taking the population of the empire at its official estimate of 49,429,470, represent a mortality from cholera equal to 0.1 per 10,000.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, JULY 11, 1896.

EDITORIAL.

THE PHYSICIAN'S PRIVATE LIFE.

In times past, almost every occupation bore with it certain social prerogatives or restrictions. According to a man's business, he fitted into a definite place in the social scale and his individuality was wrapped up in his vocation. The more elastic conditions of life in the New World, the absence of a hereditary ruling class, and the almost universal need of earning a livelihood, have presented much of this stratification of society, although the general tendency is plainly manifest and, in a few instances, determines not only the social level to which a man may rise, but has united in a peculiar degree his identity and his profession. Two generations ago, the lawyer, the minister, the teacher, and the doctor were never supposed, save in the utmost privacy, to lay aside the mannerisms of their respective professions and to be ordinary human beings. The barriers between law, insurance, real estate, politics, and business have now become so nearly obsolete that the lawyer has quite effectually shed the dignity and the burden of a professional individuality. The minister—and the same applies only in less degree to the teacher—is employed so largely for his personal influence over the moral development of the community that he must necessarily be more circumspect than the majority of men,

and must combine something of personality and profession even out of the pulpit or the desk. Still, a wholesome reaction is setting in against the notion that every detail of the minister's conduct is subject to the opinions and prejudices of his congregation. In short, morality rather than etiquette is now required of him.

The doctor has been subject to an elaborate code of professional ethics and etiquette, both in his relations with his brother practitioner and with the public. Not only in his business methods, in which he is almost compelled to be lax, but in his dress, manners, and social enjoyments he has been under restrictions which presuppose, and, in turn, enforce, a false dignity not expected of the layman. In strange contrast with this artificial ideal, has been the drunkenness, the vulgar associations of the cock-pit and the arena, the coarse language, the actual lewdness of some of the successful physicians of the past.

The laity are more than beginning to realize that medical science and art require hard study rather than intuition and that experience is a matter of quality as well as of quantity of observation. Realizing this, they are forced to the admission that the doctor, in his habits of thought, and even in his manners, dress, and amusements, naturally drifts into the same current with the "hustler" in any other department of human industry. Generally speaking, the men who have made great successes in the various branches of medicine and surgery have been too wise and too broad-minded to affect the specious dignity of the owl, and have fostered the growing realization of the humanness of the doctor, and the folly of setting him upon a pedestal. Such men have sacrificed long beards and flowing locks to sanitary knowledge or comfort and have discarded the stately Prince Albert for the easy-fitting sack. Less than a decade ago, the physician who visited his patients on a bicycle was regarded as a bold innovator, guilty, at least, of an impropriety. To-day many physicians of large practice, both in the city and the country, give their horses a vacation during pleasant weather and use the bicycle almost as their only vehicle. That the bicycle has not become more generally used in our own city, is due not so much to professional sentiment as to conservatism in the street department.

Not only the physician, but his wife, was formerly held in the affectionate but somewhat irksome control of his clientele. She rolled his bandages, weighed out his medicines, and strove to increase his practice by calling on or receiving his patients. In short, her social position was similar to that, at once dignified and subservient, of the minister's wife. We believe earnestly in the propriety of the modern tendency to separate the social relations of the doctor's family entirely from his professional engagements. The secrecy of patients' communications, the freedom of the physician's family, are enhanced while in the greater relaxation from his work, the doctor is refreshed and made capable of keener application and more successful effort.

Every man who occupies a responsible position in society, and who is known as something more than part of a machine for moving dirt or adding figures or effecting sales, is under especial obligation to live up to the highest standards of the morality upon which that society is based. Perhaps the obligation bears a little more heavily on one who is admitted so freely to the inner life of the unit of society—the family—as the doctor is. The man who adheres to his Hippocratic oath during

office hours and when in the house of sickness, but who renounces virtue and temperate conduct the moment his professional duties are over, deserves the severest censure. Better the ever-present though false dignity of the past than such a two-faced plan of life. What we plead for, is the privilege of innocent amusement, of being judged according to achievement, not by externals, and the realization that the man who plays when he plays, can work to better advantage when he works.

CORRESPONDENCE.

GLEET AND ITS TREATMENT.

EDITOR OF THE REPORTER:—

I have read with a great deal of pleasure indeed the note of Dr. George P. Blundell in a letter to you on the treatment of subacute and chronic gonorrhea, and in principle endorse most heartily his views and would even go further. I can assert beyond possibility of question that the plan of treatment which he advocates, if properly carried out, will in every case effect radical cure. To accomplish this it is only necessary to pass the metallic bougie at proper intervals, the size of the bougie being apportioned to the caliber of the strictured parts. Always bear in mind, and carry it out in the treatment, that the instrument having once been passed through the stricture and into the bladder should be of such size and so passed as to cause no pain. It should be allowed to remain from ten to fifteen minutes at each sitting, or up to a point of time within the period when its presence begins to cause pain. When the first indication of pain presents, it should be immediately withdrawn. The size of the bougie should be increased gradually, very gradually, indeed, to the full urethral capacity. The treatment should be continued at intervals, first of from five to six days, then at intervals of two weeks, then of three, then of four weeks, and continued at this interval of four weeks with the bougie to the full size of the urethral capacity for about six months. All cases so treated will be radically correct.

In this treatment all pain must be spared the patient, as pain caused by it only aggravates the trouble and protracts the cure. The bougie should always be rather smaller then larger up to and until the full urethral capacity has been gradually reached, when a bougie of its full size should be passed, and to be continued to be regularly passed, as above indicated, until all evidence of discharge has positively disappeared, until the stream of urine flows freely with full force and volume, without evidence of the smallest twirl, and the bougie of this full size glides easily and quietly into and through the strictured parts into the bladder without any pressure and almost by its own gravity.

I have pursued this plan of treatment for many years, and have treated many cases in these years without a single failure. The treatment has been supplemented with quinine, the tincture of the chloride of iron, and the tincture of cantharides, but these remedies were employed chiefly for their local and general toning effect; the quinine in many cases to guard and protect the patient from chill after the passing of the bougie. It may here be remarked that a chill, and a most violent one too, may follow the most harmless passing of the bougie. When such susceptibilities are discovered it has been my custom to give from six to twelve grains of quinine an hour before passing the bougie, and, if the patient is not intoxicated by it, to give six or twelve grains more after the bougie has been withdrawn. By the word "intoxication" I would have it understood that I wish my patient to feel the sensorial effects fully at the time of the sitting, and if he does not, I repeat a dose

of the quinine after the bougie has been withdrawn.

The obstacle to keeping patients under the treatment long enough to effect thorough cure is due to the pain they suffer. Some natures are very susceptible to pain, but when the bougie is properly passed there is no pain. When all is fully explained to the patient he gladly avails himself of the opportunity of treatment and having gained his confidence his cure is sure. The same with regard to the effects of the quinine upon the patient; naturally he would and does object, but here too, when thoroughly explained, and with his confidence, the remedy is willing taken, and often rather with enjoyment of the effects than with repulsion. There appeared a note in the MEDICAL AND SURGICAL REPORTER of Jan. 29, 1870, written by me to the Editor of the journal on the Treatment of Gleet, and to complete this letter I attach it hereto.

Treatment of Gleet.

EDITOR MEDICAL AND SURGICAL REPORTER:—

Your correspondent under "queries and replies" in your issue of Jan. 15, 1870, on the subject of the treatment of gleet, may find a means of curing his patient in the following plan of treatment:

The patient should be continent and avoid everything that tends to excite libidinous desires. The moral means being observed, a metallic bougie, as large as the urethra will conveniently admit, should be passed through the urethra into the bladder once every five or six days, and allowed to remain ten or twenty minutes at each sitting. In addition the patient should be put upon two grains of sulphate of quinine and twenty drops of a mixture of equal parts of the tincture of the chloride of iron and tincture of cantharides, three times daily. The bougie should be passed, and the other remedies used for some time after all discharges have ceased. At first the passage of the bougie may increase the discharge, but any increase will be temporary.

The above plan of treatment I employ constantly in old cases, and do not know of one of my cases in which it has failed in effecting a permanent cure.

It will thus readily be seen that practically the same mode of treatment has been followed by me for upwards of a quarter of a century. In that time I have treated a large number of cases, always pursuing the same treatment, and all with absolute success. Some of the cases were very severe, but with the smallest possible passage-way through the urethra, I have seldom been obliged to forcibly dilate or to use the knife.

THOMAS HAY, M. D.

PHILADELPHIA, July 1, 1896.

ABSTRACTS.

THE SYMPTOMATOLOGY AND PATHOLOGY OF EXOPHTHALMIC GOITRE.*

Of course, the usual advice about excesses in eating, drinking and venery must be given. The avoidance of all excitement and emotional outbreaks, and a careful regard for the general health must be insisted upon.

The systematic use of the galvanic current is the most important element of treatment. The current should be weak, from ½ to 1½ milliampères, applied for a short time (one to three minutes) every other day. The cathode is applied at the angle of the lower jaw, first on one side and then on the other, while the anode is applied at the back of the neck. After ten to fifteen treatments a steadily progressing improvement is noted, which may last for years. This plan is recommended by such authorities as Erb, Benedict, Moritz,

*Dr. William C. Krauss, *Buffalo Medical Journal*, May, 1896.

Meyer and many others. The medicinal agents comprise, in first order, the slowly increasing use of strophanthus, beginning with one drop of the tincture twice daily and increasing to ten. It is especially indicated where the tachycardia is well pronounced. Ferguson, of Troy, has had uniformly good results with this drug, and has observed no relapses. Recognizing tachycardia as an early symptom, he has been able to forestall the blossoming out of the disease through the use of strophanthus. Many of the ablest neurologists, as Gray, Gowers, Strümpell, Hirt and Seeligmüller, make no reference to it in describing the treatment of this disease, while Hammond, Oppenheim, Corning, Thompson and others rely upon strophanthus for controlling at least the tachycardia. As a tonic I know of nothing better, not only in this disease but in every disease of the nervous system, than the old-fashioned cod liver oil. We have seen fortunes amassed by shrewd advertisers of proprietary medicines, the majority being tonics, have done our share to increase their profits, and yet at our very doors have in cod liver oil a tonic, one tablespoonful of which is worth more than a pint of the ordinarily advertised nerve tonics. Drown your patients in the oil; nothing so restores a starving nerve-fibre or nerve-cell. For the insomnia, trional has done me yeoman service, and has never disappointed me, 5 to 10-grain powders producing a refreshing, healthful sleep.

Bromides for quieting temporarily the increased nerve activity, nux-vomica and phosphoric acid for dyspeptic phenomena have given satisfaction.

The drinking of several pints of pure spring or distilled aërated water daily and a diet of nitrogenous foods mostly are important adjuncts of treatment.

Of late the administration of thyroid extract has attracted considerable attention, and many cases of improvement and recovery are on record. Personally, I have not had any experience with this agent, but have seen cases and known of cases that have been benefited. Should I ever fail to attain results with the treatment laid down, I shall unhesitatingly try thyroid extract.

THE ACTION OF STRYCHNINE IN PULMONARY CONSUMPTION IN RELATION TO THE NEUROTIC ORIGIN OF THIS DISEASE.*

There is no drug that compares favorably with the action of strychnine in the treatment of pulmonary consumption. Although its action is said to be devoted to the motor nervous system, Dr. Mays states that there is reason to believe that it also affects the peripheral sensory nerves as well. Given in small doses, it stimulates; in medium doses, it tetanizes, paralyzing the nervous system when administered in large doses.

The action of strychnine may be compared to the shape of a cone, one side of which, from the base to the apex, represents the stimulant side of its action, the apex its tetanic action, while the opposite side, from the apex to the base, represents its paralyzing action.

How, then, does strychnine act in pulmonary consumption? It is taken for granted, of course, that the lung disease is merely a superficial manifestation of disorder of the pulmonary nerve supply. Therefore, the strychnine primarily raises the tone of the nervous system as a whole, and of the respiratory nerves in particular. In this way it not only increases the resistance of the lung to disease, but it aids digestion, assimilation, and blood-building. Let us say, for example, that the tone of the nervous system is depressed so far that it is located near the base of the cone, and that we wish to raise it from this point to as high a level as is consistent with health. By employing strychnine we can do this, but we must be careful to avoid the apex danger-point, yet at the same time this

*Thomas J. Mays, M.D., *American Medico-Surgical Bulletin*, May, 1896.

point must be hugged as closely as is consistent with the safety of the patient. The best way to bring about this object is to begin with a moderately small dose of the drug, say 1/10 grn. four times a day; give this for one week, then increase it to 1/8 grn. for another week; during the next week give 1/10 grn.; the following week raise the dose to about 1/8 grn., and so on, making a slight increase every week until you observe nervousness, restlessness, or twitching —the signs of the beginning of strychnine intoxication. In most cases these symptoms do not develop until 1/2 or 1 grn., or even a larger dose, is reached. It must be understood that the drug is to be given in these doses four or five times a day. The aim is to impress the nervous system with the full stimulant effect of this drug. The sooner this end is attained the better it will be for the patient. For this reason you begin with small doses and work upward as rapidly as you can with safety. After the desired point has been reached, the question arises whether it is better to go on with the largest dose, or to go back and start with the original dose. I think it is best not to wander far away from this line during the remainder of the treatment, for you don't want to lose the grip on what you have so far accomplished. Keep the strychnine-tone up to the highest level, but shun the point where the strychnine-stimulus goes over into the region of tetanus and of paralysis. It is good policy, however, to reduce the dose at this point somewhat. If, for example, it is found that 1 grn. is a maximum dose, go back to 1/8 grn.; gradually increase the dose again until 1 grn. is reached, and then return to 1/8 or 1/4 grn. After you have gone over the same ground several times in this see-saw fashion, you will probably find that 1 grn. no longer produces any danger symptoms, and that you now can give as much as 1 grn. When administered in this way the drug may be given for an indefinite period in the great majority of phthisical patients.

When we take into consideration that insanity, idiocy, hysteria, chorea, epilepsy, asthma, and all forms of nervous disorder are excessively prone to develop into pulmonary phthisis; that the former diseases are frequently converted into the latter through heredity; that all poisons, like those of alcohol, syphilis, lead, mercury, influenza, whooping-cough, etc., have a power of engendering nervous disease and pulmonary consumption, and, as a matter of fact, the former are followed by the latter disease; and that the markedly beneficial action of strychnine in this disease comes exclusively through the nervous system, it does not require a very great stretch of the imagination to perceive that the neurotic element plays a leading part in the etiology of pulmonary consumption.

INSTRUCTIONS TO CONSUMPTIVES.*

Consumption is a dangerous, communicable disease. One consumptive may spread the disease to many healthy people. The germ, the cause of the disease, is a minute plant, so very minute that only the most powerful microscope can reveal it. Millions of these germs may be contained in the amount of sputum expectorated at one time; a piece of sputum the size of a pinhead may contain hundreds. These germs, called bacilli, are found also in the urine of people having tuberculosis of the urinary organs, and in the fæces of those having tuberculosis of the bowels; hence you should be careful in your disposal of these dejecta. But it is mainly from the sputa of consumptives that the disease is spread; and as the bacilli when moist do not readily float in the air, it is evident that the dried sputum is the great source of danger. When dried sputum is converted into dust by sweeping, for instance, the germs float in great numbers; hence you should be careful always not to expectorate where the sputum may become dry and pulverized.

Keep cuspidors, with a disinfectant

*Llewellyn P. Barbour, M.D., *Memphis Medical Monthly*, May, 1896.

solution in them, about your room and dwelling, and take extreme care to expectorate in them always. The contents of the cuspidors can then be emptied into the sewer—or, if in the country, deposited in some out-of-the-way place. Whenever the sputum is deposited on the floor by accident, scrub with a hot solution of carbolic acid. Do not use boxes or any vessel with ashes, sawdust or other dry material to receive the sputa. Besides other obvious dangers, flies will gather about these receptacles and act as carriers of the contagion; a fly may carry a number of bacilli on one of its tiny feet. If pieces of cloth or paper are used to receive the sputa, burn them at once.

Do not use your handkerchief as a receptacle; some people do this, especially at night; the matter expectorated soon becomes dry; when you put the handkerchief to your face again, you have a good opportunity to inhale a few thousands of the bacilli, and thus reinfect, or further infect, yourself, besides distributing the bacilli to other clothing. Whenever, from necessity, you are forced to use your handkerchief, it should be boiled for a half an hour before it is put in the general wash. This should be done also to bed linen, or to any piece of clothing, when by accident, it is soiled with sputum; and your washing would better be done separately from that of the rest of the family.

When articles of clothing which cannot be boiled become infected, soak several hours in a strong carbolic acid solution. Do not expectorate around a farmyard where fowls will eat the sputa; chickens have been known to contract tuberculosis in this way. When out of doors, do not expectorate on the sidewalk, or street, road or path. Never expectorate on the floor of a hall, church, place of business, railway or street car; carry with you always when away from home small pieces of cloth, each just large enough to receive one sputa, and paraffined paper envelopes or wrappers, in which the cloth as soon as once used may be put and securely inclosed, and, with its envelope, burned at the first opportunity. Remember, that sputa must never be allowed to become dry.

USE OF COLD IN THE TREATMENT OF ACUTE BRONCHO-PNEUMONIA.*

The favorable effects of this system have been strikingly shown by Bartel's results.

Acute broncho-pneumonia, whether its dependence on the local action of micro-organisms be accepted or not, is a local inflammatory process. There is active hyperemia in the part affected, with a subsequent exudation of the products of inflammation. The general symptoms of fever and acceleration of the pulse and the pulmonary symptoms of pain and cough are all due to the active inflammation, while dyspnœa and cyanosis are due largely to the associated atelectasis. The tendency of the disease is to prostration and death from asthenia, when not from actual asphyxia. What, then, in the presence of an active and dangerous inflammatory process, are the pain indications? At the onset these are to lessen the hyperemia and thereby diminish the exudation of inflammatory products; so soon as pyrexia occurs, to reduce the temperature; later on, when atelectasis is the condition of chief gravity, to expand the collapsed areas. Does the ordinary plan of treatment accomplish these results? The application of a counter-irritant to the chest is well enough if done early, but in most instances the little sufferer's chest is enveloped in a hot poultice with a multitude of wraps. At the same time a fire is lighted in the room, and the temperature raised to 75 or 80° F. and steam generated in the apartment, while windows and doors are kept carefully closed in the desire to shut out dangerous draughts. Such have been the conditions disclosed more than once to me in my consultations.

* Dr. Robert H. Babcock, *The North American Practitioner*, May, 1896.

By the envelopment of the patient in hot fomentations, oil-silk jacket, cotton batting, and the like, the abstraction of fever heat by simple radiation is prevented. Nay, more, the circulation is accelerated and the blood sent surging into the inflamed lung. The very thought of the weight on the chest of hot steaming cloths is oppressive. But this is not all; the inflamed lungs and lessened hematosis call for cool, pure air, rich in oxygen, and instead of this the atmosphere surrounding the sufferer, already feverish and restless, is only too often hot and vitiated to a degree oppressive to even a healthy individual entering from the fresh air out of doors. It is of the utmost importance to maintain the strength and vigor of the heart's action in such a patient. Hot baths are weakening both to the heart and general system, and yet it seems to me that to keep one of these patients wrapped up in a close, moist, overheated atmosphere must be in its effects analagous to those of a hot bath.

How shall cold be employed? On this point there is a diversity of opinion. Some, as Juergensen, advocate the bath, either cold for a few minutes, or one in which the initial temperature of 90 to 93° F. is gradually lowered, by the addition of cold water, to 70° or thereabouts. If in consequence of atelectasis and cyanosis with increasing dyspnea it be desired to create a sudden profound impression, a cool bath of 80° for twenty minutes may be followed by an effusion of cold water on the back (Juergensen). If the bath be resorted to, a stimulant should be previously administered, and the surface of the body while immersed rubbed by the hand of the attendant. Should cyanosis, shivering, a pinched expression of countenance, or any other token of impending collapse, be observed, the patient should be removed at once and wrapped in a blanket. It is often advisable to keep watch of the temperature by means of a thermometer introduced into the rectum. Although most efficient, the bath is troublesome, and not devoid of danger. Therefore many practitioners prefer a cold pack, which after having been once adjusted requires no further care. This is unquestionably an excellent measure, but my experience with it is too limited to entitle me to speak of it authoritatively. Cold compresses, that is, cloths wrung out in cold water and applied to the chest, are very highly recommended by Bartels and von Ziemssen. They require frequent renewal, however, and for this reason the ice-bag is to be preferred. Inasmuch as dry cold is sometimes irritating to the skin, and painful, it is better to first apply a cold wet compress on which the ice-bag can be laid. This method of refrigerating the chest is generally agreeable to the patient and has the merit of being tidy and not likely to wet the clothing, besides obviating the necessity for frequent exposure of the chest in the adjustment of cold compresses. It should be stated in this connection that, although this treatment will be well borne in the vast majority of cases, there may arise an instance of too profound impression produced by even the ice-bag.

OXYGEN.*

The therapeutic application of oxygen in many forms of acute, as well as chronic, disease, is an exceedingly wide one. Besides its well-known value in the treatment of pulmonary tuberculosis, his clinical study of it has enabled him to place many other diseases within its beneficial influence.

It will yet become a supreme fundamental axiom in dietary science that a perfect oxygenation of the blood corpuscle, either by natural or artificial means, is the first and most important step in the function of alimentation, nutrition, and reparation in the human body, in the presence of both health and disease, for no one will deny that even the mechanical reduction of food in the stomach, and the subsequent processes by means of which the appropriate

* Dr. Virgil W. Blanchard.

elements it contains are transferred to the blood, are entirely and absolutely dependent upon the normal oxygenation of the blood corpuscle.

In the presence of chronic disease, the topical effect of heat and moisture is to rouse vital action in the pulmonary tissue, while at the same time a supreme constitutional result is obtained by causing the blood corpuscles to assimilate the largest possible volume of oxygen for the highest utilization of the food elements supplied to the blood by the digestive organs.

Especially, in the proper administration of pure oxygen, is a *maximum* satisfactory result in this direction realized; for, from the use of this highest natural food product, in conjunction with heat, a supreme vitalizing effect is produced in the production of vital energy, and in an acceleration of the reparative, secretory and excretory functions.

The powerful, antiseptic, and life-endowing qualities of oxygen, combined with food, heat, moisture, and appropriate antiseptic and medicinal agents, will yet become, in the hands of the scientific physician, a weapon of both defense and offense in the treatment of disease *that has never had its equal in the history of therapeutic science.*

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, June 24, 1896

DR. JOHN M. FISHER, in the chair.

DR. ANDREW J. DOWNES, exhibited

"COLLAPSIBLE AND REMOVABLE BOBBINS FOR ALL FORMS OF INTESTINAL APPROXIMATION"; demonstrated "A NEW CONTINUOUS DOUBLE-KNOT INTESTINAL SUTURE"; and showed "A NEW ABDOMINAL RETRACTOR."

[See page 39].

DISCUSSION.

DR. J. M. FISHER could not agree that end-to-end anastomosis is the ideal mode of uniting intestine when it has been divided in an operation or otherwise, because of the cicatrical contraction that takes place subsequently.

In doing lateral anastomosis the opening can be made as large as one chooses, the result being practically a continuous canal after cicatrization has once taken place. Not only that, but the greater portion of the suturing can be done previous to opening the intestines.

Given a divided bowel the ends are quickly closed by inversion of the edges and continuous Lembert sutures; then bringing the lateral surfaces of the bowel together one is enabled to suture around at least three-fourths of the proposed opening. The opposing lateral surfaces are now incised to any length desired and the suturing completed, thus re-establishing the continuity of the canal. In this way one reduces possible extravasation of feces during the operation to a minimum.

In doing this there is no necessity for the use of either a bobbin or a button.

The abdominal retractor is a most ingenious device, because of the fact that the bar supporting the retracting blades is out of the way. But in certain abdominal work where it is desirable to obtain a view of the pelvic cavity, in hemorrhage, for example, the bleeding point is generally to be looked for at the sides and not along the median line, and this retractor in such a case would be useless. In other cases the intra-abdominal pressure is considerable, so that the introduction of any form of double-bladed retractor would at once allow protrusion of the intestine. The more important part of pelvic surgery, especially in inflammatory cases, is accomplished by touch and not by sight.

DR. DOWNES said, in conclusion, that many writers on surgery concede that the ideal method of doing intestinal anastomosis is the end-to-end method, but they have no perfect way of doing it. The only means that has offered any prospect at all is the Murphy button, which has many warm admirers and opposers. Dr. Downes expressed the belief that in the future a bobbin like the one presented will make it possible to unite the bowel end-

to-end and leave it with about the same caliber as before section. With the suture described the cellular and muscular layers of the bowel can be brought in exact apposition. With the serous coat sufficiently so.

The current method of effecting lateral anastomosis is pretty certain to result in contraction, no matter how long the slit. The Lembert suture leaves almost a little valve or fold in the bowel which increases from thickening and contraction of lymph where the serous surfaces meet.

DR. A. A. ESHNER read a paper on

"PROGRESS IN ORGANOTHERAPY."

[See page 33].

DISCUSSION.

DR. B. MEADE BOLTON maintained that the whole subject should be divided sharply into two headings: the use of extracts like the thyroid, thymus, and adrenal on the one hand, and the use of those like the prostatic, the ovarian and the testicular on the other. A moment's consideration will show that in the latter case an attempt is made either to stimulate or to substitute a physiologic action. It is a different matter whether an attempt is made to stimulate or to give a tonic for the sexual organs or whether the object is to try to neutralize the toxic effect due to the insufficient action of the thyroid, thymus or adrenals. The use of thymus and thyroid extracts is really to neutralize a toxic condition of the system. The animal or the person suffers really from a sort of intoxication when these glands are removed and the addition of a small part of the glands or an extract of these glands simply neutralizes the poison. In other words the system is constantly accumulating effete products of the metabolism of the cells, which normally are neutralized by these various glands. By substituting then some of the extract from another animal this poison is neutralized which would be neutralized in a normal animal by the normal gland.

On the other hand, the use of the prostate and of the ovaries is intended to stimulate already existing physiologic functions. The activity of thyroid and thymus extracts is shown in a most interesting way by the work of Brieger, Kitasato and Wassermann, who cultivated various organisms in the extracts of these glands and found that the organisms had lost their toxic power, although they could still be used for inoculating animals. Dr. Bolton added that definite results have been obtained from the therapeutic use of thyroid and thymus extracts. In the use of the other extracts from the ovaries, testicles, etc., it is possible that the element of hypnotism or suggestion has not always been carefully eliminated.

DR. S. SOLIS-COHEN said that he had made many clinical observations on the use of animal extracts, some of which have from time to time been published. In addition to the distinction between the use of preparations of the sexual glands and of other glands, a further important distinction is to be made, which may be expressed in classification by the terms *extrinsic* and *intrinsic*; perhaps *homologous heterologous* would be better. When a substance prepared from a normal gland is used to compensate therapeutically for a deficiency in the patient an intrinsic or homologous action can be spoken of. By art is substituted the animal secretion or extract for that which the patient's gland should naturally supply, this being deficient from disease; as in the treatment of myxedema by thyroid extract. When, however, thyroid extract, for example, is used in the treatment of psoriasis and other diseases not dependent, so far as we know, upon lack of thyroid function the animal preparation is used just as an agent derived from the mineral or vegetable kingdom would be used, because of certain anatomic, chemic or physiologic effects which it is supposed to be capable of producing and which are not related directly with the function of the organ from which it is derived. This may be termed extrinsic or heterologous action. The use of the heterologous action of animal extracts is largely governed by empiricism; this may be based on laboratory investigation or be purely clinical. But clinical empiricism is of value also, and indeed unless laboratory experimentation were finally submitted to the test of clinical experimentation its results would be valueless from the standpoint of therapeutics.

Dr. Cohen has found preparations of the thyroid gland useful in the treatment of disorders of the vaso-motor system. This is empiric, partly, but nevertheless has a physiologic basis. If one reflects for a moment upon the great number of vaso-motor phenomena which are met with in diseases such as exophthalmic goiter, myxedema, akromegaly, in which the thyroid gland is abnormal, either structurally or functionally, he can hardly avoid the conclusion that this organ is in some manner related with the taxis of the cardio-vascular function. Dr. Cohen has gradually been led to divide vaso-motor disorders (vaso-motor ataxia, as he likes to call them) into two great classes, which can be roughly characterized by the reaction of the patient's temperature. Certain patients complaining of vaso-motor disorders will exhibit an undue susceptibility to cold; they will be miserable during winter and comfortable during summer; in these patients vascular contraction is the predominant symptom. Other patients will exhibit exactly opposite tendencies; the vessels become unduly relaxed with but slight elevation of external temperature. In those patients who are peculiarly susceptible to cold the use of thyroid extract will usually be found to be beneficial; while on the other hand, in those patients who are unduly susceptible to heat, the use of thyroid extract often aggravates the symptoms. This is well-marked in certain cases of exophthalmic goiter in which affection the tendency to relaxation of the vessels

usually predominates. In these cases use of the extract increases the tendency already existing to overaction of the heart, to sweating, to polyuria, to subjective sensations of heat and the like. In some cases of exophthalmic goiter, however, thyroid therapy has been reported by competent observers to have done good. But it is especially in those cases varied in symptomatology, from the excessive vascular constriction of Raynaud's disease, to the occasional attack of spasmodic migraine, in which before the introduction of thyroid extract one would have been likely to use nitro-glycerin as a therapeutic agent, that thyroid extract administered in moderate doses is frequently palliative and sometimes actually curative.

Dr. Cohen cited the case of a man who had been for years subject to attacks of blindness associated with vertigo, with pallor of the face, followed by intense headache and accompanied with a feeling of numbness and almost paralysis of one side of the body. Curiously this man's thyroid gland was enlarged and there was a history of his mother having had a goiter. Under treatment, first, with nitro-glycerin, in order to determine his therapeutic peculiarities, and afterwards with thyroid extract, this man has so far recovered that the intervals between the attacks have been lengthened from weeks to months; and the severity greatly lessened. They are now brought on only by some indiscretion in diet, while formerly they occurred in response to various exciting causes, and are immediately relieved or even cut short by return to treatment. Thyroid extract has likewise proved useful in obesity and as a diuretic in various conditions.

Dr. Cohen's experience with the use of thymus extract in exophthalmic goiter has been so far satisfactory that in some five or six cases in which it has been used improvement in symptoms has taken place. He was, however, extremely reluctant to draw positive conclusions from early results observed in exophthalmic goiter in sequence to any kind of treatment, because symptoms so often recede spontaneously under the most divergent methods of treatment. Thus while thyroid extract is often harmful in this disease, a case was cited which improved so much under thyroid treatment that it was impossible to keep the patient under observation. In four cases of simple goiter treated with thyroid extract no improvement was observed.

Dr. Cohen had not seen any permanent good results from the use of pancreatic extract in the treatment of diabetes, although he had observed remarkable temporary improvement; especially in a severe case in a young man in which, under the use of pancreatic extract, the patient survived some two years longer than was expected and was made quite comfortable during at least the first three months of this treatment. If there were any sure means of recognizing during life those cases in which the diabetic complexus of symptoms is due to disease of the pancreas there would be a clearer indication for the use of the preparation. The use of preparations of the supra-renal capsule will probably prove of service in cases other than of Addison's disease. These extracts seem to exert an effect on the heart and vessels, possibly through the nervous centers, opposite to that of the thyroid extract, namely to heighten blood-pressure. They could be used in such conditions as have in the past been treated with belladonna, picrotoxin and the like. Dr. Cohen's experience with their use in this class of cases has not yet been sufficiently extended to warrant the utterance of a positive opinion, but is in some respects, favorable. He awaited a suitable case and opportunity to test them in exophthalmic goiter.

DR. J. F. SCHAMBERG said that the magnificent results obtained in the treatment of myxedema with thyroid extract suggested a field for the use of this remedy in various skin-affections attended with great structural changes, particularly in scleroderma. In this disorder, however, the results have been disappointing.

With reference to psoriasis, Bramwell's original paper was too sanguine and has not been substantiated by subsequent observation. The results of the use of thyroid extract in psoriasis have been, to say the least, erratic and disappointing. In some cases in which it has been used the results seem to have been rapid and brilliant, but it must be remembered that psoriasis tends, at times, to spontaneous recovery and that it requires large statistics to prove that any given remedy produces given results. Thyroid extract is certainly inferior to arsenic and the iodids in psoriasis. Furthermore, its use is not unattended with risk. In a case of mycosis fungoides under the care of Dr. Duhring at the University Hospital, it produced an erysipelatous eruption with high fever and tachycardia and almost determined a fatal result.

In regard to the other affections named, eczema, alopecia areata, etc., it is exceedingly dangerous to ascribe curative virtues to a new remedy, after limited observation, considering the frequency of spontaneous improvement in these diseases.

DR. L. JURIST related a case of what appeared to be a mediastinal tumor in which thyroid extract was employed with brilliant results so far as the patient's freedom from anasarca temporarily was concerned. The circulatory stimulation, however, became subsequently excessive and the remedy had to be withheld.

DR. ESHNER said that it is important to bear in mind that every organ in the body probably plays some part in the general metabolism, and it has been well pointed out within recent times that not only do the so-called ductless glands, which have no external secretion, possess an internal secretion, but also those organs that do have an external secre-

tion, e. g. the pancreas, which, besides its digestive secretion, is also in some way capable of influencing the sugars of the body in such a way that they do not appear in the urine as glucose. Failure in this function results in glycosuria. The full usefulness and the limitations of organotherapy have not yet been settled, and the subject is still in process of agitation. If the vascular effects described by Dr. Cohen were determined by clinical experience, the observations may be looked upon as a happy confirmation of what physiologists have determined in the laboratory. It has been shown experimentally that thyroid extract causes dilatation of the vessels, while, on the other hand the adrenal extract slows the heart and causes contraction of the vessels.

DR. COHEN stated that his observations had been purely clinical. To the list of affections in which thyroid extract has seemed to be useful, he added rheumatoid arthritis. It is well known that disease of the thyroid gland has been associated in some cases with rheumatoid arthritis; this fact suggested the use of thyroid preparations in the treatment of the latter affection. The observations have not gone far enough, however, to determine its value definitely.

DR. SCHAMBERG read a paper on

"SEVERE STOMATITIS FOLLOWING THE ADMINISTRATION OF POTASSIUM IODID."

[See page 37.]

DISCUSSION.

DR. S. SOLIS-COHEN said the opinion is now held by many that, in mercurial stomatitis, the mercury is not alone responsible for the ulcerative phenomena, but that breach of the integrity of the tissues through the mercurial irritation, especially in patients who neglect the hygiene of the teeth and mouth, permits certain microbes found in the mouth, and harmless to healthy tissues, to set up ulcerative processes in the inflamed mucous membrane. If this be true, and the view is held by some of the foremost syphilographers of France, the fact will help to explain Dr. Schamberg's case. Iodism in a susceptible subject caused irritation, perhaps inflammation, of the oral mucous membranes; the subsequent phenomena were septic.

DR. H. LANGREHR related that some twenty years ago he observed a case of quite intense salivation, caused by syrup of iron iodid, in which there was no suspicion of previous mercurial treatment.

DR. L. JURIST said that there can be no doubt that the intense irritation, due to the elimination of a small amount of potassium iodid in a susceptible subject, may be responsible for such symptoms as those described. The condition of the mouth prior to the administration of mercury or iodid for any reason will largely influence the occurrence of stomatitis. It is well known that some patients cannot take small doses of iodid in any form, while others can take large quantities with impunity.

DR. SCHAMBERG added that positive observations are more valuable than negative ones, and most of the statements made by the syphilographers have been negative in character. Stomatitis following the administration of syrup of iron iodid must be attributed to an idiosyncrasy, inasmuch as this preparation contains comparatively little iodid. Indeed, it is valuable in syphilis chiefly as a tonic, and not as a specific. If such a small amount of iodid can produce a stomatitis, how much more likely it is for a larger amount in the form of potassium iodid to produce a similar condition.

LIBRARY TABLE.

THE STUDENT'S MEDICAL DICTIONARY. By George M. Gould, A.M., M.D. Tenth edition, Rewritten and Enlarged. P. Blakiston, Son & Co., Philadelphia. Cloth. Price, $3.25.

This volume is most convenient in form for the use of a student of medicine, while its price places it within the reach of all. It bears the evidence of careful editing on every page, not the least in the method of spelling of words with diphthongs, the dropping of the final "e" and "al" and various other changes in the line of reform. It contains practically all the information in the larger edition, though condensed, and may be considered a safe authority. The press work is excellent.

THE THREE ETHICAL CODES. Illustrated Medical Journal Company, Detroit, Mich. Cloth. Price, 50 cents.

This little volume contains the code of ethics of the American Medical Association, its constitution and by-laws, the code of ethics of the American Institute of Homeopathy, and that of the National Eclectic Society. It is in the compactest possible form, and is a valuable book of reference for a physician of any school.

HARPER'S MAGAZINE, during the remainder of the year, will contain fiction noteworthy both in amount and quality. Besides the short novels by John Kendrick Bangs and Langdon Elwyn Mitchell, "Tom Sawyer, Detective," a two-part tale by Mark Twain, will be given in the fall, with illustrations by A. B. Frost, and publication of Du Maurier's novel, "The Martian," the manuscript of which has arrived in this country, is expected to begin in October. Short stories will also be contributed by Octave Thanet, Mary E. Wilkins, E. A. Alexander, Julian Ralph, George A. Hibbard, W. E. Norris, and many others well known to *Magazine* readers.

THE REVIEW OF REVIEWS, for July, is a strong political number. The portraits of prominent men of all shades of politics are numerous and interesting, and the editorial comment on the present situation is luminous. The *Review* is the only monthly which is able to keep fully abreast of all political movements and changes. The action of the St. Louis Convention on the 18th of June is already history to the *Review of Reviews*. Indeed, that action had been definitely and accurately predicted in the number of the month previous. The most thorough and authentic study of William McKinley's character and career that has yet appeared in periodical literature is contributed by E. V. Smalley, the well-known journalist, whose intimate knowledge of Republican party politics and long acquaintance with the public men of Ohio render him peculiarly adapted for such a task. Mr. Smalley was born and reared on the "Western Reserve," only forty miles from McKinley's Poland home, and he writes with full personal knowledge of the Major's early environment. The article is well illustrated.

LIPPINCOTT'S MAGAZINE comes to the fore with the usual complete novel, "A Judicial Error," which deals largely with matters interesting to a physician. Hypnotism is given a prominent place, and such little matters as for instance the resuscitation of a man hanged for murder are thrown in to add color. An article of general interest is that upon the spirit displayed by Pennsylvanians to the illustrious sons of their Commonwealth. It is stinging in many of its arraignments of the narrowness of the average citizen and his lack of state pride, ascribing much of the fault to jealousy of anything that rises above the dull level of mediocrity, but the statements are, nevertheless, in the main true, and fairly made.

TABLE TALK for July is an exceptionally bright number. The article on household remedies contains many hints helpful to the mother of a family. The essay on vegetarianism is interesting, but why does not its author, a physician, speak of some of the ill effects of a totally vegetarian diet, such as atheroma? The usual topics of interest to the home-maker are dwelt upon, making the publication a welcome visitor to the family circle.

PETERSON'S for July comes to hand fresh and breezy, bright and interesting in every detail. Golf and the queens of the New Orleans carnival are the subjects of two very interesting articles, beautifully illustrated. It is a marvel how a magazine of so much merit can be issued for the merely nominal price of ten cents.

BORDERLAND STUDIES. George M. Gould, A.M., M.D. P. Blakiston, Son, & Co., Philadelphia. Cloth. pp. 380. Price, $2.00.

The above volume consists of miscellaneous addresses and essays pertaining to medicine and the medical profession, and their relations to general science and thought, many of them already familiar through the columns of such journals as *The Forum*, *The Monist*, *The Open Court* and the *Medical News*. The opening essay, that on "Vivisection," is of special interest at present, because of the late attempt to pass prohibitory laws in the District of Columbia and elsewhere, and would merit careful reading and some thought on the part of those who are most bitter in the controversy. Reform in medical spelling is a pet hobby of the author and he treats it in one of the essays in a manner that will make even the most conservative of the advocates for the good old styles smile. Under the titles "Hospitalism" and "Charity Organization and Medicine," there is much that may be of benefit to those profiting in the line of professional advancement by the system of free medical advice, as it exists in this city and elsewhere. Dr. Gould has a trenchant pen and a singularly pleasing method of expression. It is to be hoped that his works will have the effect of abating some of the nuisances at which he tilts.

A TREATISE ON APPENDICITIS. John B. Deaver, M.D. P. Blakiston, Son, & Co., Philadelphia. Cloth. pp. 168. Price, $3.50.

This is a valuable contribution to medical literature. The general style of the book is above criticism. It is well printed in clear type on smooth, heavy paper, and copiously illustrated with colored plates, showing the mode of operation, specimens of diseased appendices removed, etc. The indexing is remarkably complete for a work of this kind. The book is full enough in all its details, and yet avoids the modern fault of being too diffuse and verbose. The volume opens with a brief history of the disease as known to science, followed by a description of the particular anatomy of the region, the etiology, pathology, symptoms, diagnosis, treatment, etc., of the disease, in the usual form of a medical essay, accompanied by an account of a number of cases. The volume should be in the hands of every operating surgeon, and is of more than usual value to the general practitioner from its aid to an early diagnosis of the complaint.

THE METAPHYSICAL MAGAZINE begins its fourth volume with the issue for July. It is a journal in the line of Mme. Blavatsky's cult, and claims to be devoted to a "scientific examination of the laws of being, to a study of the operation and phenomena of the human mind, and to a systematic inquiry into the faculties and functions, the nature and attributes of the spiritual man." Of course, mind cure or mental healing are treated, and a scientific aspect is given this modern fad.

BOOKS RECEIVED.

CLINICAL DIAGNOSIS, a practical handbook of chemical and microscopical methods—A. W. G. Aitchison Robertson, M.D., D. Sc., F. R. C. P. E., F. R. S. E., London. The Scientific Press. p. 366.

A MANUAL OF OBSTETRICS. W. A. Newman Dorland, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania, Instructor of Gynecology in the Philadelphia Polyclinic, Fellow of the American Academy of Medicine, W. Cloth. pp. 760, with 163 illustrations in the text, and six full-page plates. Philadelphia, W. B. Saunders. Price, $2.50, net.

PRACTICAL POINTS in nursing, for nurses in private practice, with an appendix containing rules for feeding the sick, etc. Emily A. M. Stoney, graduate of the Training School for Nurses, Lawrence, Massachusetts; Superintendent of the training school for nurses, Carney Hospital, South Boston, Massachusetts. Cloth. pp. 456. Price, $1.75, net, with 73 engravings in the text, and nine colored and half-tone plates. Philadelphia, W. B. Saunders.

PERISCOPE.

NEWS AND MISCELLANY.

Virginal and Senile Endometritis have recently been considered by Dr. Paul F. Munde, of New York. According to the New York *Medical Journal* he says that it is not very uncommon for the virgin uterus to give evidence of chronic catarrhal inflammation, and in some instances there would be erosion and eversion of the cervical lips to such an extent that the appearance would closely simulate that presented by a puerperal laceration of the cervix. While he would not for trivial reasons resort to local examination of the sexual organs in a young girl, he was convinced that many of these cases called for treatment. The condition was commonly characterized by dysmenorrhœa, leucorrhœa, and sometimes rather profuse menorrhagia. The speculum would reveal the erosion and eversion already described. The treatment consisted in excising the hypertrophic mucous membrane, curetting the endometrium, and, if necessary, suturing of the everted cervical lips. In this form of endometritis there would often be a muco-serous discharge and a chronic inflammation of the vulva and vagina. For the erosions caused by this acrid discharge, nothing was better than the local application of a solution of nitrate of silver, of the strength of half a drachm or a drachm to the ounce of water. Sometimes there would be a sanguineous "spotting," which would then call for a careful distinction with the aid of the microscope between senile endometritis and malignant disease.

Color Blindness and Atavism, as correlated, are considered by a recent writer, M. Dubois, says the *Lancet*. It is recognized by

astronomers that there are three classes of stars—first, the bluish-white stars, of which Sirius and Regulus are examples. More than half of all known stars belong to this class. In these stars combustion is at its maximum, and their atmosphere consists of superheated hydrogen and certain metallic vapors. The second class, of yellow stars, has for typical representatives Capella and our own sun. They are less hot than the first class, and the hydrogen lines in their spectrum are not so conspicuous as in the case of the white stars. This class contains about 33.5 per cent. of all known stars. The third class are the red stars, and of these Betelguese is the representative. They are in a later stage of cooling than the second class, and the violet rays are deficient. This class includes about eight per cent. of known stars. From these known facts it is conjectured that color-blindness (or insusceptibility to the red rays of light) may possibly be a case of atavism—a "negative inheritance from that time long ago when the eye of our ancestors was not yet sensitive to red rays, which were almost entirely wanting in the white stage of the sun." This is a startling theory, but it suggests a plausible explanation of what is such a mysterious fact—viz., that color-blindness should so uniformly take the form of insusceptibility to the red rays. Atavism is without doubt a principle of wide application, and may be fairly relied upon to explain many apparently inexplicable facts. We will not venture to pronounce upon the correctness of its application in the present instance, but at least the theory is a bold and ingenious one, and, if accepted, would tend toward that unifying of knowledge which is the aim of science. Color-blindness, regarded as an isolated phenomenon, is mysterious, but if it be a case of atavism it takes its place in the scheme of ordered knowledge.

Second Pan-American Medical Congress, to meet in the City of Mexico, November 16, 17, 18 and 19, 1896.

SPECIAL REGULATIONS.

There will be one opening session, one closing and one intermediate session of a purely scientific character. No discussions will be held in the general sessions.

Sessions of the Sections will be held from nine to twelve A.M., and from three to five P.M., in the places that may be designated by the Organizing Committee. They shall be presided over by the President of each Section, alternating with the Vice-Presidents of each one of the nations that are represented in the respective sections.

PAPERS, EXTRACTS THEREOF AND DISCUSSIONS IN THE SESSIONS OF THE SECTIONS.

All papers will be presented in writing.

Each author will forward to the Secretary of the Organizing Committee, in the City of Mexico, and before the first day of August of the present year, an extract, not exceeding 300 words, of the paper to be presented by him. These extracts will be printed in English, French and Spanish, and will be distributed to the members of the Congress before the session in which they are to be read.

No paper will be announced which is not accompanied by this extract; but the authors who comply with these conditions will have a right to have their work published intact in the transactions of the Congress.

The reading of the papers in the sessions must not last more than twenty minutes; when the papers are so long that they cannot be read within that time, the authors will give extracts from them, either in writing or by speech; but they will be published intact in the transactions of the Congress and in the language in which they have been written.

The extracts referred to in the preceding article will be delivered at the same time as the papers, to the Secretary of the Section to which they pertain.

The members of the Congress who may take part in the discussions in any section will present their speeches in writing at the termination of the sessions, to the respective Secretaries of such Sections, and they will also be published in the transactions.

The papers which have been announced for reading, in the order of the day, in each Section, will serve as subjects for discussion. In such discussions, no speaker will be allowed to speak more than once and for five minutes; but the author of the paper under discussion will be allowed to reply, if he considers it necessary, in one sole speech, which will not go beyond ten minutes.

In order to form the **Executive Committee**, the Organizing Committee will appoint seven members, including the President, Secretary, Treasurer and the Mexican representative in the International Executive Committee, and such members will attend to everything relating to the business of the Congress, in accordance with the regulations that they may adopt for that purpose.

The Relationship Between Chronic renal disease and general paralysis is tabulated as follows by Hubert C. Bristow in the *British Journal of Mental Science:*

1. The percentage of renal disease in general paralysis ranges from fifty-four to seventy-four, and is therefore very considerably increased.

2. In those cases showing no gross lesions of the kidneys, the arterial coats are very much hypertrophied.

3. There seems to be no appreciable difference in the percentage of the kidney lesions in the two sexes, and the urine cannot be relied upon as a guide to a diagnosis of chronic renal disease.

MEDICINE.

Formulæ.

For dry eczema with pruritus.

A formula emanating from Thibierge is:

℞

Menthol	gr. xxx.
Resorcin	gr. xv.
Sulph. precip.	℥iiss.
Zinci oxidi	℥iiiss.
Vaselin	℥j.

Ft. unguent.—*Medical Times and Hospital Gazette.*

For gout:

℞

Magnesii sulph.	℥ij.
Potass. bicarb.	gr. xv.
Tr. colchici sem	M x.
Infus. buchu	fl. ℥i.

Ft. haustus. Sig.: To be taken every four or six hours, followed by a large draught of water, not too cold.—*Fothergill.*

For neurasthenic headache:

℞

Ammonii carbonatis	℥iij.
Tinct. moschi	℥vi.
Spts. lavandulæ	℥i.
Elix. ammonii valerianatis	℥viij.

M. Sig.: Two teaspoonfuls at a dose in water.—*Hamilton.*

For whooping-cough.

Eschle recommends the following mixture:

℞

Infusion of belladonna leaves (gr. viij) in distilled water	℥v.
Antipyrin	gr. xv.
Syrup of gooseberry	℥j.

M. Sig.: A teaspoonful every two hours for a child of five years.

As a rule there may be given, for each year of the child's age, gr. viij of belladonna leaves in infusion, and the double dose of antipyrin.—*La Medecine Moderne.*

For influenza:

℞

Brom. Potas.	
Chlorat. Potas. aa	℥ss.
Tr. opii camph.	
Spts. ætheris nitrosi, aa	℥ss.
Syrupus Simp.	℥iij.

M. Sig.: Dessertspoonful every hour or two, according to the severity of the case and susceptibility of the patient; with a turpentine stupe over the irritated part or parts of the chest.

Parasiticide:

℞

Spts. camphor	℥i.
Glycerin	℥ss.
Ess. terebinthinæ	Mij.
Mer. bi-chlor.	℥jss.

—*Hallopeau.*

For spasmodic asthma:

℞

Tr. lobelia ætherea	M xv.
Spts. ætheris	M xx.
Tr. Chlorof. Comp.	M v.
Aquæ Camphoræ	ad ℥i.

M. Sig.: To be taken when breathing is difficult.—*The Practitioner.*

Dusting powder for eczema:

℞

Pv. amyli	℥j.
Pv. zinci oxidi	℥ij.
Pv. camphoræ	℥ss.

M. Sig.: For external use.—*Hyde.*

Soothing application for acute eczema:

℞

Bismuth oxid.	℥j.
Ac. oleic.	℥j.
Cera albæ	℥iij.
Vaselini	℥ix.
Ol. rosæ	Mij.

M. Sig.: For external use.—*Hyde.*

Witch hazel and pile ointment:

℞

Lanolini	℥iv.
Petrolati	℥iij.
Glycerin	℥ij.
Distilled ext. hamemelis	℥i.
Tannin	℥ss.
Pr. opii	℥ss.

M. Sig.: Apply locally.—*Fenner.*

For chloasma of pregnancy:

℞

Zinci oxidi	gr. vi.
Hydrarg, ammon	gr. ij.
Ol. theobrom	℥v.
Ol. rici	℥v.
Ess. ros	gtts. xx.

M. Sig.: Apply to the face night and morning.—*Hare.*

For paralysis agitans:

℞

Strychniæ sulphat	gr. i.
Acid. arseniosi	gr. ii.
Ext. belladonnæ	gr. v.
Quininæ sulphat	℈ii.
Pil. ferri carbonat	℈ii.
Ext. taraxaci	℈i.

M. et ft. pil. No. 90. Sig.: One pill three times a day.—*S. W. Gross.*

For ringworm:

℞

Acid. sulphuric aromat	℥i.
Spts. etheris nitrosi	℥i.
Creasoti, aa	℥i.

M. Sig.: Apply once daily, with a feather, until well.—*Bull. Pharm.*

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2054. SATURDAY, JULY 18, 1896. VOL. LXXV—No. 3

ORIGINAL ARTICLES.

MEDICAL PROGRESS, ITS HELPS AND HINDRANCES.*

G. C. SAVAGE, M.D.†

While I would not rob Hippocrates of the honor of being the first to reduce medicine to a science, nevertheless the generations who preceded him must have been blessed with men skilled to heal, although the depth and extent of their knowledge, measured by the aids they had, must have been little. Their skill to use the crude means for cure, at their command, could not have surpassed their knowledge of disease.

Medicine is yet an unfinished science, and as an art still imperfect, notwithstanding the multitude of remedies and surgical appliances. Within the present century the greatest progress has been made; yet medicine may not become a perfect science for many centuries to come.

The conditions which hindered progress in the past, if existing, could hinder now. Unfortunately, some of them do exist, and it is equally certain that they have their retarding influence. Bigotry, whether characterizing an individual or a class of individuals, in matters medical never had other than a harmful effect. Men who are not willing to accept facts presented by others, and will not weigh the conclusions that have been based upon them, are not the men who will make advances themselves, nor will they be helpful to others who would. A medical bigot knows not enough to know that he does not know it all, and therefore always stands ready to destroy anything that does not emanate from a source peculiarly his own. The man who would attain to the greatest wisdom must gather grains of thought from all fields, must use his judgment in separating the good from the bad, and must be willing to feed his fellow-men from his well-filled granary. If Jenner had not listened to the stories of the milk-maids, vaccination would not have been discovered; and the era of immunization, inaugurated by Pasteur, founded on Jenner's discovery, would have been longer delayed.

Jealousy is always a sign of weakness and is usually directed against one who is stronger or gives promise of becoming so. Medical jealousy is a cur that rarely faces the one whom he would frighten, but watches for his opportunity to slip up from behind. A timid,

*Read before the annual meeting of the Tennessee State Medical Society, April, 1896.

†President of Tennessee State Medical Society.

though talented man, just entering the field of investigation, may be driven to flee the field through another's jealousy and forever fear to enter again, and thus results may be lost to the world that otherwise would have followed. The medical man who is afraid of jealousy deserves pity; the jealous man merits only contempt.

Laziness afflicts some men to such an extent that they neither accomplish anything themselves, nor do they help others who would do something. This is a sort of passive hindrance to progress, and is harmful chiefly when it engages in idle conversation one who would be better employed.

Carelessness, in more ways than one, may be the means of preventing progress. A careless reader cannot get all that may be in the printed page; a careless observer cannot properly interpret symptoms, and therefore may miss the mark in prescribing remedies. A careless man may have thoughts, but he does not note them. Such a thought, recalled at a more leisure time by a glance of the eye, and amplified by the reasoning powers, might bring strength to the person and progress to the profession.

Indifference about medical matters and medical men is not calculated to give speed to the car of progress. One thus affected may answer promptly all calls from the sick and may relieve them from their sufferings. Every page he reads may bring him profit; every patient may be an open book from whose leaves he gathers useful lessons. He is content with these two sources of information, and what he gets he appropriates to his individual and exclusive use. He meets not with his brethren in medical societies for mutual improvement. His own thoughts he hoards as a miser does his gold. When he dies, the good he has done is buried with him.

Exclusive medical organizations are not promotive of progress in the fullest sense. In a science so broad and with aims so high, narrowness in organization is an abnormality. Such organizations tend towards becoming mutual admiration societies; and the members sometimes may imagine that the great body of physicians on the outside look upon them with admiration and awe. An exclusive organization with a national name is a travesty.

Vanity in a medical man is not usually well-founded, and often is unregulated. Such a vanity always harms the possessor and is continually in the way of both personal and general progress. Competition is hateful to such an one, and without competition there can be no progress. But prudent, well-governed vanity is a good thing, for with it competition is wedded and the legitimate offspring of this union is progress.

Common prejudice of all times and laws of some civilized countries have been hindrances. Dissection, vivisection, and experimentation, against which the multitude are prejudiced, are as essential to advance in medical knowledge and skill as light, heat and moisture are to the growth of vegetation. If there is any excuse for medical men in politics, it lies in the line of their preventing the enactment of laws that would lock the wheels of medical progress. At this moment the Congress of these United States is being urged by some, who think more of the lower animals than they do of mankind, to enact laws against vivisection in the District of Columbia. If they are successful in this, they will conclude that it is just as wrong to cut up a dead man as it is to cut on a live rabbit, and they will ask for laws against dissection. It would be but one step further for them to ask for the enactment of laws against administering medicines to the poor in hospitals, whose virtues had not already been proven on millionaires. Thus encouraged they would leave Congress and go out into State legislatures and plead for the enactment of similar laws. If such laws should ever find their way into our statutes, a strict enforcement of them would put an end to medical progress in this country. Let us hope that the men who make laws for us will not be so barren of brains.

The public (not all the public) of whom preachers (not all the preachers) form a part, may be the means of hampering medical progress by encouraging quackery, using vile nostrums, and endorsing quack appliances which bear high-sounding names. Serious ailments lead people to think only of men skilled in healing; slight ills or imaginary af-

flictions afford the opportunity to quacks and nostrum-dealers to deceive the people, and while under the pall of this deceit they forthwith "certify." If there is a man whom the people deify it is the family physician, and yet they degrade him when they buy a bottled nostrum, visit a quack for free consultation, or wear about them a device that has more name and price than power to do good. Let the people frown on quackery and refuse to buy, then quacks will vanish and the nostrum trade will die.

Some of the specific aids to the medical advancement of the century now about to close may be mentioned:

Anesthesia, local and general, has been given us, making painless surgery not only a possibility but a reality. While the hint for painless surgery was given more than 6000 years ago, when "the Lord, God, caused a deep sleep to fall upon Adam, and he slept," while the rib was taken from his side, it will always be a matter of pride to physicians of the South that Long, of Georgia, in 1842, was the first man to produce general anesthesia, and to do a painless surgical operation on sensitive human structures. It will likewise always be a matter of regret, on our part, that his modest nature and retiring disposition prevented his making public, except to a few medical friends, his great discovery, until, after a lapse of four years, Morton, of Massachusetts, announced his independent discovery of anesthesia. It will always be our pride as American medical men to proclaim that our country gave anesthesia to the world. Without this boon, surgery would have continued painful, and the great progress which has since been made would have been impossible. Koeler, not then an American citizen, gave us cocaine as a local anesthetic in 1884. In paying homage to him now, in recognition of the good he has conferred on medicine by his discovery, we honor an American citizen, for he resides in Greater New York.

Antiseptics, the introduction of Lister, and its legitimate outgrowth, asepsis, have so lessened the former disastrous results of surgery that the surgeon has been made bold in his operative work. Because of these gains untold suffering has been relieved, and, in innumerable instances, life has been prolonged. The greatest progress that surgery has ever known has been made in the last half of the 19th century, and the two factors that have had the most to do with this progress are anesthesia and asepsis. A closer study of pathology and symptomatology have aided greatly in the march of surgery.

Electricity has been tamed to serve the well and heal the diseased. When Franklin tapped the clouds with his kites and brought the fiery fluid in a gentle stream down the slender cord to the key in his hand, he dreamed not that, in the 19th century, it would be made to light our streets and drive our cars. When Galvani saw the muscles of the dead frog contract and relax under the influence of this subtle agent, he had no thought to what uses it would be put by medicine and surgery ere the dawn of the 20th century. When Crookes invented his tube only a few years ago, he did not foresee that, by means of it, Röntgen would be able to make shadowgraphs of things hidden from the light of day. Electricity is to-day one of the invincible forces giving speed and effectiveness to the progress of medicine.

Specialism had its birth in modern times, and has been a most important factor in the advances that our science and art have made. Neurology became a possibility with Wilson's study of the brain in the 17th century; but did not grow to its present beautiful proportions until men of the 19th century devoted their time and talents to perfecting the work begun so long ago. McDowell's boldness in opening the abdomen of his Kentucky patient, led men to a more careful study of the pelvic and abdominal organs, and made gynecology and abdominal surgery a possibility. Helmholtz's invention of the ophthalmoscope, in 1851, created modern ophthalmology, and gave to medicine one of its most useful branches. It bears to-day the proud distinction of being more nearly founded on a purely scientific basis than any other department of medicine. Proud of her progress and position, she is humiliated only by the fact that gynecology, her younger sister, has far surpassed her in adding long and high-sounding names to the medical vocabu-

lary. Other specialties might be mentioned that have done much in advancing medicine.

The drug-supply of this century has had much to do with therapeutic progress. The mineral and vegetable kingdoms have been free in their gifts of remedies for human ills. While much has been given for the asking, much more remains to yield disease-preventing and health-restoring power to the earnest, active searcher into nature's secret resources. On the mountain tops, on the sloping hills and in the valleys of Tennessee there may be plants growing whose properties, if known and used, would surpass, in power to prevent or cure disease, anything that has ever been brought from any clime. How these secret forces may be extorted from nature's hidden grasp, and by whom they shall be given to medicine, remains to be seen.

Energy and industry are more powerful in the life-work of a physician than are the circumstances of high birth and the environment of great wealth. The story of the lives of America's most noted medical men tells us too plainly that they were not born into proud positions that they attained; and they were not wafted there by some gentle, uplifting breeze. Couple industry and capacity together and no mountain is so high that it may not be climbed; no plain so wide that it may not be traversed. By such an one every opportunity is transformed into utility; every obstacle is brushed aside with the broom of determination.

Medical colleges have aided in the progress of the past, are doing better work in the present and will accomplish still greater good in the years to come. The medical schools of to-day are greatly in advance of those of even a decade ago; and the best schools of one hundred years ago are nothing in comparison with the least advanced schools of to-day. Men towering above their fellows in medicine in past centuries, were few, and because of their fewness they attracted the greater attention. Our great men of to-day far surpass the greatest of other centuries, both in the depth and extent of their knowledge and in their power to apply it. Graduates of a few weeks ago know more of medicine than Galen ever dreamed. While medical colleges are still not perfect and should be further improved, on many lines, a greater care should be exercised in scrutinizing applicants for admission. A man to enter on the study of medicine should have much of the quality known as "mother wit," or common sense; he should be trained in literature and in the sciences, at least up to the point of development of his thinking powers; not only should he be mentally sound but he should also be morally pure.

The medical society is one of the most powerful factors of personal and general progress. Its existence presupposes that the members have accomplished all that is required of them in the prescribed course of a medical college. There may be ever so much fire in flint, yet without friction it cannot be called forth. The medical society is designed to bring out the fire of thought from the reasoning centers. The ideal medical association probably never had an existence and yet is a possibility. The chief design of every medical society should be the advancement of knowledge and the enhancement of skill. Its doors should be wide open to all honorable members of the profession in the territory it covers. Bigotry and envy should not only not be placed to guard those portals, but they themselves should be prevented from entering, because both are enemies to progress. A rightly-organized and properly-conducted local society contains the germ of power. The smaller organization should bear a definite relationship to the larger; and their workings should be harmonious. Both should be governed by laws having in them the same spirit of progress. Continuing in training in the local and state societies, every honorable medical man should join his powers with those of his fellows in perfecting the National organization.

Medical journals are helps. The vitalizing fluid of the profession is continually coursing through the pages of our periodic literature. Sometimes this stream is poisoned by the plasmodium of egotism which now and then gives the reader a chill; sometimes it is made to lose its strength-giving power by the germs of the envious or the spores of one gifted in ridiculing. With all their faults journals are a necessary factor in

the progress of medicine. If they were fewer in number they might be better. If those who imagine themselves gifted with editorial powers were really thus endowed, journalism would be on a higher plane. But after all, the mental pabulum offered in medical periodicals is made up largely of contributions from subscribers. How much better would these contributions be if the prime object in presenting them was the making of leaves in medical literature, for the healing of the people.

Books are as essential to medical life and activity as bread is to physical force. Discretion in the buying of books is a necessity; the buying and reading of good books tend only towards advancement. While the profession cannot limit the making of books, it is fortunate in that it can control to a large extent, the sale. The truths contained in good books will endure while time lasts. An individual book may not reach many editions, but its contents in some other form will extend across the stretch of time, and will always add to speed of progress.

Enthusiasm has always been and always will be the spirit of progress. Its correct meaning is not always in the mind of the man who uses the word. The term crank or maniac would aptly apply to some who are miscalled enthusiasts. God is in the genuine enthusiast, burning within him but not consuming him. The wisest as well as the humblest may learn lessons from the enthusiast that will be both hopeful and enduring. Deliver medicine from cranks and maniacs who can but retard her progress, but give her more men who believe that God is the author of all truth, and that for the general good of mankind he sometimes takes up his abode in a man, firing him with an almost consuming zeal. The plan of redeeming the people from disease is of Divinity as much as the saving of their souls from damnation.

The general progress in medicine is only the sum total of the progress of individual medical men. Throughout the history of medicine there have been men who created epochs and inaugurated eras. Harvey's discovery of the circulation of the blood was an epoch, beginning the era of rational medicine. Jenner's discovery of vaccination marked an epoch, which the work of Pasteur caused to develop. The noon-day of this era has not yet arrived. Throughout the coming centuries men imbued with the spirit of Pasteur's work, will go on investigating with the microscope and the test-tube, until, in due time, the people who will may become immune from disease.

The medical world stood still when told the story of McDowell's daring, and has not yet recovered from the astonishment excited by the brilliancy of the era of abdominal surgery which he inaugurated. The wonder will never cease, that for so many centuries, appendicitis and ovarian growths were permitted to send their victims trooping to an untimely grave, because of the unfounded fear that a puncture of the peritoneum meant death to the victim. Thus we might speak of scores of epochs and the eras that have followed them. The man who moved in these matters simply uncovered principles as old as creation.

Throughout the centuries medicine has been building her own monument. Before Harvey, the work done only served to clear the ground and prepare the foundation. The corner-stone of the superstructure is Harvey's discovery. Stone after stone has been added as discoveries have been made. As each tier stands completed, there is room for fewer stones in the one to follow. Some unenduring stones have been placed, but they have served to let the building go on. The time will come when this monument will be ready for the placing of the capstone. This ceremony, commemorating the final discovery necessary for making the science of medicine complete, will be performed as the millenium dawns, amidst the applause of a world redeemed from disease.

To Remove Warts.

To get rid of warts the most effective thing, according to the *Medical Herald*, is Fowler's solution, two drops three times daily, in children half a drop, three times daily, slightly increasing the dose each week. The warts crumble to pieces and disappear, especially when washing and drying the hands, so that the skin looks normal after two or three weeks. Relapses have never been observed.

REFRACTION WITHOUT MYDRIATICS.*

RICHARD H. SATTERLEE, M.D.,† BUFFALO, NEW YORK.

Eye-strain as a factor in producing certain reflex disturbances has become well recognized. The adjustment of a suitable lens for the relief of this condition by a method that brings little or no discomfort to the patient is becoming more and more necessary.

Oculists generally claim that no case can be properly refracted without a mydriatic. Paralyzing the ciliary muscle reduces the eye to a mere optical instrument. Usually no one under forty years of age can afterward wear the glass the eye accepts while under the influence of the mydriatic. Hence an empirical allowance for the action of the ciliary muscle must be made. Opinions differ as to this allowance. The best guesser then is the one who prescribes the glasses the patient can get along with.

The public has grown weary of this mydriasis. This is evident from the fact that where a few years ago a dozen opticians refracted without drops there are at the present time more than two thousand opticians in the state alone who practice refraction without a mydriatic. Schools for the instruction of opticians in refraction are to be found in every large city. Every village, hamlet, and four corners has or soon will have its quota of refracting opticians who test eyes free and charge seven prices for their glasses.

An optician, one of the best authorities on optics in the limited states, has refracted over twelve thousand cases and states that more than one-half were under the care of oculists before applying to him. They had been under atropia, but he was able to improve on the prescription of the oculist without using a mydriatic.

When the way we putter over one degree of muscular insufficiency or put the patient to the inconvenience of a mydriatic is seen, is it any wonder that many intelligent physicians send their cases direct to the optician to be refracted instead of subjecting them to the expensive and needless ordeal so popular at present among oculists?

My experience with the refracting optician has been large. His knowledge as yet is in the crude state and he makes some bad blunders, but he is learning, and if the oculists continue their present methods he will shortly have more than he can do. The additional fact that many oculists do not take the time and pains to refract properly has hastened the production of this self-styled "refractionist" and his kind is increasing by the dozen every week.

Dr. Noyes in his "Diseases of the Eye," speaking of refraction, says, "the more we can rely upon objective methods the better, and increasing skill will indispose one to subject patients to the inconvenience of a prolonged mydriasis by atropia." He does not believe in homatrapin and cocain used as a substitute for atropia.

Dr. Burnett in his scholarly "Treatise on Astigmatism" says: "the monochromatic aberration of the cornea increases from the apex toward the periphery. A wide pupil opens up the passage of a large number of rays refracted nearer the periphery of the cornea and in addition to increasing circles of diffusion in all meridians will, in most instances, also increase the difference in refraction in the two principal meridians. As a result of this the astigmatism, as determined in this condition, will be apt to differ from that obtained with a pupil the normal size."

Ciliary spasm is sometimes met with which defies a week of atropia. The ophthalmoscopic examination is the only sure method of detecting it. In the past year I have seen a dozen cases of hypermetropia associated with ciliary spasm which made it simulate myopia. In some of the cases a mydriatic had been used, and a weak minus sperical or minus cylinder prescribed,

*Read before the Medical Society of Erie County, New York, June, 1896.

†Oculist for Buffalo, Rochester and Pittsburg Railway; Buffalo Railway Company, etc.

showing clearly that entire dependence was placed upon the mydriatic and that it failed to reveal the true condition.

The ophthalmoscope shows hyperopia, myopia and astigmatism. All that the mydriatic is for is to determine the same thing. Then why not use the ophthalmoscope in preference to the mydriatic? The ophthalmoscope does not always show the exact refraction where there is less than one diopter of myopia or myopic astigmatism, but such cases are rare and can be relieved by wearing a plus glass until the true condition can be diagnozed or a mydriatic could be used.

That cases of asthenopia are often relieved by a mydriatic is true, but inducing a temporary myopia by giving the patient a plus glass to wear will often relieve ciliary spasm quicker than by any other method and will give them the same relief and make a mydriatic unnecessary. This is the method I have practiced for the past five years. When the exact refraction of the eye cannot be made out to a positive certainty I always prescribe plus glasses to be worn constantly for a day or so,or even a week, as the case requires. It would astonish one, who has not tried it, to see how soon the fundus will present a view that will leave no doubt in your mind as to the exact refraction.

Whether the refraction work shall remain with the oculist is for him to decide. When there is an urgent demand there is sooner or later a supply. The laity require an accurate adjustment of glasses without a mydriatic and the time is soon coming when they will have it. Now who will supply this demand is the question.

PHONO- AND PNEUMO-MASSAGE IN SUPPURATIVE DISEASE OF THE EAR.*

LOUIS J. LAUTENBACH, A.M., M.D., PH.D.,† PHILADELPHIA.

The subject of suppuration of the middle ear has of late years called forth an increasing amount of attention. The recognition of the frequency of cases of mastoid disease and of meningeal and cerebral disorders, resulting from acute or from neglected chronic suppuration of the middle ear, has given an increased importance to the subject and stimulated to more thorough and persistent treatment. In cases of local severe headpains and neuralgias,obscure in their nature,and of cerebral affections, especially basal disorders of unknown origin, the ear is now included as a subject for investigation, cerebral abscesses being frequently a result of old neglected suppuration.

In cases of middle ear suppuration there are three aspects from which the subject of the treatment must be studied. The first of these is the prevention of the extension of the inflammation; the second, which is to some extent included in the first, is the subjection of the inflammatory condition and the healing of the diseased parts, while at the same time stopping the ear discharges; the third is to save the hearing or to restore it when impaired.

I hope in this paper to so present the subject of oto-massage as applied to suppuration cases, that you will be convinced that in connection with our older and well-tried remedies, it is a valuable aid in the treatment. It is not a cure-all, not a specific, but there is a sphere which it more thoroughly fills than any other remedy or remedies.

In all cases of suppuration, acute or chronic, it is necessary to cleanse the ear as thoroughly as possible of all retained secretions. There is no doubt that if the middle ear cavity were kept constantly clean the inflammatory condition would often subside very quickly. Unfortunately this is rarely accomplished. The middle ear usually fills

*Read before meeting of the Pennsylvania State Medical Society, May, 1896.

†Surgeon to the Pennsylvania Eye and Ear Infirmary; Nose and Throat Physician to the Odd Fellows' Home; late Chief of the Eye Clinic of the German Hospital, etc.

with the discharges, which lie there and undergo fermentation, the irritant, acrid products of which occasion an increased virulence of the inflammation, causing new foci of ulceration. In addition, the discharges frequently by pressure occasion infiltration and distortion of the ear structures and .surrounding parts. Because of this filling of the ears with the discharges, we have increased inflammatory action with a distortion of the ossicular connections, followed by ulcerations, granulations, formation of fibrous bands and abnormal adhesions, and later by necroses and sclerotic changes. The ossicles become abnormally attached to the walls of the middle ear cavity or to each other, the membrana tympani becomes adherent to the promontory or other parts, the perforation often enlarging; the stapes is driven into the oval window; increased pressure is brought to bear upon the internal ear structures; the Eustachian tube undergoes exudative and later, cicatricial changes.

Wet cleansing serves to wash out most of these discharges, but allows some, diluted by the residual liquid, to remain. This diluted discharge is probably more irritating than the original, and excites increased secretion and inflammatory action. Dry cleansing, as usually pursued, can never remove all the suppuration, as the middle ear cavity cannot be thoroughly reached in this manner.

To remove these discharges, I use my pneumo-massage instruments in connection with wet or dry cleansing. I first treat the ear according to the present methods, and when I consider it fairly clean, I use an exhaust apparatus, with a pressure of from two ounces to four pounds per square inch for from three to ten minutes, employing about 300 exhausts per minute. Then, I again thoroughly cleanse the ear with cotton, and if I am at all suspicious of their being more suppuration present, I again apply the exhaust pump. After thus cleansing the ear, I use drying and stimulating preparations in the usual manner. Often in simple cases, after cleansing the ear, I lightly plug with cotton, using no other treatment.

By this massage method, I often succeed in reducing the infiltration and inflammation. Often even in acute suppuration, with severe pain, I employ it, and by its means relieving the pressure of the discharges, cause a rapid disappearance of the pain, the inflammation subsiding, the surrounding swollen tissues soon returning to their normal condition, the discharges ceasing, the ear often quickly resuming its normal functions.

In addition to this, the massage being used daily, formation of lymph bands and other adhesions is avoided; the drum-heads, ossicles and their connections are prevented from becoming fixed and immovable, the hearing being in a great part preserved.

Pneumo- or suction-massage thus applied fulfils in part all three of the treatment indications, preventing the extension of the disease, favoring the subsidence of the inflammation and improving or saving the hearing. It accomplishes these three indications by the complete cleansing occasioned, and in addition, the last of these by the thorough kneading movements produced in the conducting apparatus, preventing loss of functional activity and relieving pressure on the internal ear. This use of massage in preventing loss of hearing or restoring impaired hearing is an extremely valuable one. Massage for this purpose is to be applied in two ways: pneumo-massage, to retain the conducting apparatus in normal activity or to restore it when interfered with; and phono-massage, to stimulate the internal ear when from either pressure or disease its nerve endings are unresponsive.

In no class of chronic ear cases is massage so valuable in improving impaired hearing as in the cases under consideration, the likely explanation being that in most of these cases the changes produced are primarily rather in the nature of a deposition of new material, or increased thickening of the mucous tissues, than that of a destructive fibrous or sclerotic change. As before said, these cases are accompanied by ankyloses, lymph adhesions, the formation of abnormal bands, growths and thickenings which may be followed later by ulcerations and necroses, and perhaps by scleroses.

We can by means of such massage thoroughly applied (often and sufficient-

ly long) break up these ankyloses, stretch and cause absorption of the bands, break the adhesions and often reduce the thickenings and growths of the mucous tissues and heal the ulcerations. By bringing about these results we succeed in restoring to the conducting apparatus its normal function. During this process we usually succeed at the same time in relieving the abnormal pressure on the internal ear.

By the use of phono-massage we can, as elsewhere pointed out, stimulate the auditory nerve ends to renewed activity. This stimulation of the nerve can often be demonstrated in a very few minutes. If you take any case of suppurative disease unattended by destruction of the nerve, and subject the case to a phono-massage treatment adapted to it (I find sharp metallic and high whistling sounds the most effective) for from twenty to forty minutes, you will rarely fail in temporarily improving the hearing. I will instance: Mr. C. M., aged twenty-eight years, who had had suppurative disease of the right ear for twelve or fifteen years had a watch hearing of one-quarter inch. Strong, metallic phono-massage for forty minutes was followed by an immediate increase in hearing distance to one and one-quarter inches. A second application gave him a hearing distance of over two inches. Often in these cases there is an increase of from two to eight inches.

By persistence in the use of the phono-masseur, using it in connection with the pneumo-masseur, I have succeeded in often bringing about results which by former methods have seemed to be impossible. I will instance a few cases, commenting on them as I go along.

Miss A. H., aged twenty-five years, who came March 25, 1895, was treated by an ear specialist of marked ability for eighteen months without apparent improvement in hearing. On examination I found her watch hearing in both ears, hard contact. By the use of phono-massage once a week for twelve months, it improved in the right ear to one inch, and in the left ear to ten inches. In the right ear granulations have several times appeared and are now interfering with her hearing power.

Mr. E. S., aged twenty-five years, who came February 3, 1895, with perforation and discharge in left ear with no watch hearing, has improved to six inches in fourteen months' time under massage treatment.

Mr. W. S., aged eighteen years, came August 4, 1895, hearing for both ears, hard contact; very large perforations in both ears with frequent acute exacerbations of the inflammation. He now hears, right ear, two and one-half inches; left ear, one and one-half inches. Treatment mixed massage once a week, forty minutes each time.

Mr. C. H., aged seventeen years, came March 17, 1896, with perforation in both ears, profuse suppuration and acute pain, the parts being swollen and infiltrated; watch hearing in right ear; none left ear, hard contact. He now hears, right ear, light contact; left ear, two inches under massage treatment. The pain disappeared, there is no discharge in the left ear and very little in the right ear.

Miss V. H., aged twenty years, who came November 4, 1895, with perforation in both ears had been treated by an ear specialist for some twenty months without any apparent effect on the hearing. In six months of massage treatment her watch hearing has improved from hard contact right ear, to seven inches; left ear, six inches; and she is still improving; the suppuration has ceased.

Miss J.O., aged twenty-one years, came January 22, 1895, with perforation of both ears. I treated her for six months without massage with little improvement in hearing. Now, after the institution of massage treatment, she hears the watch; right ear, six inches; left ear, eight inches—an improvement from not heard at all in right and light contact in left ear.

Miss C. M., aged fifteen years, came December 1, 1894 for chronic suppurative disease of left ear. There was a large perforation and a fair amount of whitish discharge, not very gluey. There was no watch hearing on contact. I treated her ear without massage and succeeded in about four months in stopping the suppuration, but the perforation did not heal. The hearing distance had at this time improved to hard contact hearing for the watch. I then determined to endeavor to restore the hearing by

means of massage, using the pneumo- but especially the phono-masseur, neglecting the perforation, hoping it would heal spontaneously. Now, after ten months of such treatment (one visit per week) she hears the watch at ten inches, the perforation remaining unhealed, the ear being perfectly dry.

Two years ago on making my initial report before you of the results of my massage methods, I narrated the case of Mrs. R. W. K., aged thirty-eight years, who came to me several years ago, suffering with suppuration caused by scarlet fever during her first year. When she came I informed her that I feared I could not restore her hearing and as this was the object of her visit I refused to treat her. Two years later she came to me again. The ears were still discharging; the watch was not heard in either ear. After she had been using the massage treatment for some months, not only did the discharge cease, but the hearing improved so much that she had no conscious difficulty in hearing conversation; the watch being heard twenty inches ($\frac{20}{24}$) from the ear. The progress of this case was a steady gain in hearing power from the commencement. From the time of my report up to the present time, there has been no diminution in hearing power. During the progress of the treatment she heard a thunder clap for the first time, gradually hearing lower and less marked sounds.

Miss L. H., aged forty-three years, came February 25, 1894, with no watch hearing in either ear; clock not heard on contact; friction cards heard with both ears; right ear discharged for six months; the left for seven years. The treatment has been followed at average intervals of about one week, with the result that her clock hearing in the right ear has increased to seven inches; in the left to four inches, retaining this except when affected by colds.

Miss I. K., aged ten years, came January 2, 1895, with suppuration of four months' standing in the right ear, caused by scarlet fever; watch hearing in this ear three inches ($\frac{3}{15}$). The usual treatment, continued twice a week for some three months, gave her a hearing distance for the watch of forty-two inches ($\frac{42}{15}$).

Master T. C. K., aged seven years, came April 11, 1895, with suppuration in both ears for nine months, occasioned by constant throat colds. His watch hearing has improved from right ear one inch ($\frac{1}{15}$), and left ear, light contact, to right ear forty-eight inches ($\frac{48}{15}$); left ear forty inches ($\frac{40}{15}$).

Master G. S., aged fourteen years, of Wayne, Pa., sent by Dr. George M. Wells, came April 15, 1895, with no watch hearing in right ear, left ear light contact. The suppuration was caused by an attack of grippe two years before. He now hears the watch, right ear, forty inches ($\frac{40}{15}$); left ear, thirty-six inches ($\frac{36}{15}$). This result was obtained after some forty treatments applied at first twice a week, later once a week, and then every other week, combining the massage with rational ear, throat and general treatment.

Master A. H., of Wayne, aged fifteen years, sent by Dr. G. M. Wells, came November 6, 1895, with suppuration of both ears of thirteen and a half years' standing, caused by measles. His watch hearing in the right ear was $\frac{3}{4}$ inches ($\frac{3}{4}$-30); left ear, three inches ($\frac{3}{30}$); and is now, right ear, fifteen inches ($\frac{15}{30}$); left ear, nineteen inches ($\frac{19}{30}$). He has been under treatment constantly from his first visit, averaging almost two visits per week. I feel confident that in this case, with persistency, we will succeed in restoring his hearing completely.

Mr. T. P., sent to me by Dr. T. V. Crandall, came November 16, 1895, with a watch hearing for right ear of one and one-half inches ($1\frac{1}{2}$-30); left ear, none. The suppuration has been of some years standing, and was occasioned by scarlet fever in early life. By the usual methods, being treated once a week, I have succeeded in improving the watch hearing to, right ear, nine inches ($\frac{9}{30}$); left ear, thirteen inches ($\frac{13}{30}$). Here also I expect a further marked improvement by persistence with the treatment.

Master H. W., aged eight and one-half years, came November 21, 1895, with profuse suppuration of both ears, occasioned by scarlet fever when two years old. The watch hearing in the right ear was hard contact, but there was no watch hearing in the left ear; friction cards were heard indistinctly in

the left ear. The case has been treated twice a week since the initial visit, with the result that the hearing in the right ear is now one and one-half inches ($1\frac{1}{2}$-30), and the card friction is clear and sharp in the left ear. This improvement has occurred despite the fact that the suppuration continues on both sides. This case has been treated steadily by some three ear specialists of Philadelphia for the three years immediately preceding his visit to me, and each physician, after having full control of the case, arrived at the conclusion that it would be impossible to obtain a favorable result—all agreeing that there would be no improvement in the hearing; yet by massage methods he has improved, and promises to improve much more in the future.

Mr. H. B., aged nineteen years, came February 1, 1896, with suppuration in right ear, caused by scarlet fever in early life; no watch hearing in the ear. After some ten weekly visits the hearing had improved to one and one-half inches ($1\frac{1}{2}$-30).

Mrs. G. W. A., of Westminster, Md., aged thirty-nine years, sent by Dr. Edward D. Wells, came April 7, 1896, with slight suppuration of both ears of some six years' standing, during which time the hearing has grown steadily worse. She had a watch hearing for right ear two inches ($\frac{2}{10}$); left ear, light contact. After applying my method for five successive days, the watch hearing improved to, right ear, three and one-half inches ($3\frac{1}{2}$-30); left ear, one and one-half inches ($1\frac{1}{2}$-30). The rapidity of the change in a case of such long standing proves that the case will undoubtedly improve considerably more should the treatment be again instituted and then continued.

I have given these cases not as exceptional but as average ones with average results. I no longer tell my patients that as the discharge ceases, the hearing will probably grow worse. I no longer find it to be so. I find the hearing almost invariably improves as the treatment progresses. Of course under the old method the hearing often did grow worse; no effort being made to prevent the organization of the exuded lymph, there was an entire lack of any treatment employed to overcome the bad effects of the abnormal healing processes; the ossicles become ankylosed and adherent to adjacent structures; the drum-head formed attachments; nothing was done to prevent the stapes being jammed into the oval window; no steps were taken to relieve the pressure on the internal ear; nor, was it considered necessary in any way to normally stimulate the quiescent auditory nerve endings. In fact, all that was done was to soothe, cleanse and heal the ear with perhaps the occasional use of the Politzer inflation.

My method provides for the relief of all these conditions, and by a rational common-sense treatment endeavors to overcome them all, and I am satisfied that it does so measurably well—as my results to-day are infinitely better than before its introduction—the results both as concerns the cure of the suppuration, the length of time required therefor, as well as in the degree in which I succeed in restoring the hearing being conclusive proofs in this direction.

My conclusions are briefly as follows:—

Pneumo-massage aids in the prevention of the extension of inflammation as well as in the subsidence of the inflammatory action, through the aid it affords by thoroughly cleansing the middle ear of all the discharges, thus relieving the excessive tension, thus preventing infiltration and disintegration of ear structures with consequent extension to the internal ear or mastoid cells or both.

Pneumo-massage preserves intact the normal sound-conducting structures and restores them, when ankylosed or abnormally attached, or when restricted in their movements, to a condition more nearly natural than can be attained by any other method.

Pneumo-massage relieves the increased pressure on the internal ear so often observed as the cause of deafness in these cases.

Phono-massage restores, at least, in part, to the internal ear-structures their normal receptiveness, by occasioning a physiological stimulation of the nerve endings and their connecting parts, which had either from disuse or increased pressure been placed in a dormant or non-responsive condition.

COST AND COMPENSATION IN A DOCTOR'S LIFE.

J. M. FRENCH, M.D., MILFORD, MASS.

The calling of the physician presents certain characteristics which tend materially to lessen the desirability of medicine as a profession, inasmuch as they not only interfere with his comfort and lessen his enjoyment, but menace his health and shorten his life.

The first of these is irregularity in every item of life. A physician eats at irregular intervals, sleeps when opportunity offers, and works whenever his services are in demand, be it night or day. He has no Sabbath, no hours of retirement, no time he can call his own. Even though, during a part of his professional life, he may have far more idle moments than he desires, yet he is unable to enjoy the luxury of disposing of them according to his will, for he knows not when they will come, or how long they will last. He cannot plan for rest or recreation without the probability that his plans will be broken in upon by the demands of his patients. He may have absolutely no business on hand, yet in a moment may come an imperative summons. And no excuse short of a death in his own family, or absolute physical inability on his part, will be accepted as satisfactory for a failure to respond promptly to this summons. Often, in his hours of weariness, indisposition or illness, he summons all his energies to enable him to make a professional call upon some person who needs medical aid far less than the doctor himself does.

Another source of wear and tear is the intense strain upon the nervous system. The responsibility of life and death is upon him, and he cannot throw it off. In seasons when there is much sickness, or during the prevalence of an epidemic, he is fatigued from constant exertion, both physical and mental. He not infrequently has to endure forgetfulness and ingratitude where he feels that he has merited the reverse, until he appreciates the truth of the lines:

> God and the doctor we alike adore,
> But only when in trouble, not before.
> The trouble o'er, both are alike requited;
> God is forgotten, and the doctor slighted.

Lack of appreciation on the part of the public takes off the sharp edge of his enjoyment, especially in the early years of his practice, before he has learned philosophy from the school of experience, and found that the praise he receives which he has not merited will fairly balance the blame which he has not deserved. Frequent and often needless demands upon his sympathy tend finally to dull the keenness of his sensibilities. The strain of watching a critical case, or performing a delicate surgical operation, destroys the elasticity of his nature. His nervous system becomes exhausted and his ability to withstand disease is lessened.

The doctor's next great source of discomfort and danger is exposure, whether to atmospheric vicissitudes, filth in all its protean forms, the deadly germs of infectious disease, or the fearful liability to blood-poisoning. Even when the thermometer is up among the nineties, or down below zero, in rain, or hail, or snow, or sleet, he must none the less attend to his calls. Though he may be the apostle of cleanliness, yet his calling takes him into huts and hovels where foul odors and gross filth abound. Though he guard his patients with every aseptic and antiseptic precaution from bacillus and micrococcus and streptococcus, yet he himself moves freely where all these abound. The germs of consumption, cancer, erysipelas, smallpox, scarlet fever and diphtheria fill the air in the rooms in which he makes his calls. Even the poison of the specific disease meets him on every hand and from often unsuspected sources.

Every now and then we read of some physician who loses his life as the direct result of his efforts to save the life of his patient. Recently, in a case of diphtheria, when the patient was choking

from a detatched piece of membrane, a doctor thrust in his fingers to grasp and remove it, and as he succeeded in doing so, he received also in his face and nostrils the germ-laden breath of the patient and fragments of membrane which were coughed up, and gave his life for that of his patient. A few days later, it was another case of the same disease in which tracheotomy was being performed, and the doctor applied his mouth to the tube and removed the obstructing membrane by suction. In this instance, the physician, aided by antitoxin, barely escaped with his life, and we are divided between admiration for his faithfulness to his patient's interest, and condemnation for his foolish disregard of the rules of common prudence.

Again, in the dissecting room, on the operating table and in performing post-mortem examinations, the doctor is exposed to dangers which are terrible to contemplate. Only a few years since, with two of my confrères, I attended an autopsy on a case of intestinal ulceration with perforation. One of them, who was a young man of brilliant parts and rare ability as a surgeon, was specially interested in the examination, and made free use of his hands in breaking up old adhesions and manipulating the pus-laden tissues. After the examination was completed, he called our attention to a slight scratch upon his right hand, and proceeded to cauterize it with strong carbolic acid. But upon the thumb of his left hand was a neglected hang-nail which had caused him some annoyance a few days previous, but now seemed perfectly healed, and consequently did not claim his attention. Eight days later he died, unconscious, of acute malignant pyemia, the result of septic infection at the site of that neglected hang-nail.

Dr. Farr, the English registrar-general, tells the story in the light of English statistics, thus: "Physicians and surgeons, from youth up to the age of forty-five years, experience a mortality much above the average; after that age they do not approach the priesthood in health, but differ little from the average. Many young practitioners have hard struggles to encounter. They are in contact with the sick, are exposed to zymotic diseases, and their rest is disturbed. In states of depression deadly poisons are at hand. There is an excess of practitioners in cities. Country practitioners have to visit their patients at all hours, in all weathers. The causes from which medical men suffer demand further study."

Fortunately, there is another side to the shield, for if there were no relief to this dark picture, then would the life of the physician be most unenviable. Not only would his allotted time be short, but there would be little cause to wish it lengthened. In reality, however, the doctor's life has many compensations which tend to increase its pleasures and lengthen its duration. His thorough acquaintance with the laws of health gives him many advantages over those who are ignorant of them, even though he cannot always live up to his knowledge. So, too, his understanding of the natural history of disease tells him when in his own case it is safe to leave nature alone, and when prompt interferference is necessary. Familiarity with danger enables him to face it without fear. The absolute necessity of carrying a cheerful countenance in the presence of his patients, makes him in reality "the cheerfullest man in the community." For a similar reason he learns to forget or rise above his own petty troubles and annoyances, in his efforts to lessen those of others. A life of service renders him unselfish. Constant dependence upon his own resources makes him self-reliant. Especially is this true of the country practitioner, who must more often than otherwise meet and face disease and death alone, without skillful assistance or professional council. If he is fitted for his work, he has a cultivated mind, well stored with valuable information, and this his daily occupation keeps constantly active. These things in themselves constitute an important stimulus to health, and a powerful incentive to longevity. Not only do they enable him to avoid many dangers by living in accord with nature's plan, but they add greatly to the attractiveness of life, and increase his power of resisting disease. Then there is a good degree of solid satisfaction in the consciousness of good work well done, which also favors longevity.

Although it has been truly said that the profession of medicine does not lead to anything outside of itself, yet many paths are open to the educated physician who can prove himself fitted to walk in them. In literature the doctor has achieved many notable successes, especially of late years, and there is every probability that he will gain a much larger proportion in the future. That in so doing he does not need to neglect his profession, but may the rather win eminence in both directions, may be seen by a glance at the careers of such men as Hammond, Weir Mitchell and Oliver Wendell Holmes. So, too, in political life, whenever he has seen fit to enter it, the doctor has almost always done good work, and left an honorable record. Wealth in any high degree he does not often reach, but a comfortable maintenance is nearly always within his reach. In one or all of these directions success in life, though hardly won and late in coming, brings increased independence and higher social standing, with the respect and confidence of his fellows, all of which are powerful factors for life, and health, and enjoyment.

Putting together the different parts into one whole, the disagreeable and the agreeable things in the doctor's life, the disease-producing and the health-giving, cost and compensation, we may conclude that the life of a physician, in America at least, is a fairly healthy one, his social standing good, his enjoyment of life usually keen, his opportunities for distinction not few, and his longevity above the average. Dr. Farr tells us that the average duration of life of physicians in England is about forty-five years. All statistics show that in this country it is considerably more. According to a table given in the Massachusetts Registration Report for 1886, covering a period of forty-three years and eight months, the average age at death of 238,792 persons twenty years old and upwards, whose occupations were known, was 51.87 years; while that of the 1858 physicians included in the table was 56.47 years, or nearly five years above the average. It was, however, four years less than that of clergyman, and ten years less than that of farmers. A similar table for Rhode Island for 1892, covering forty years and seven months, gives the average age of all as 51.97 years, and that of physicians as 59.45 years.

If the unpleasant picture painted by Conan Doyle in his Stark-Munro letters of the life and struggles of a young English physician is a fair one, it is not strange that he dies at an earlier age than his American brother; for, surely, no picture so dark as that could fairly represent the medical profession of the United States.

IS ALCOHOL ESSENTIAL IN THE TREATMENT OF DISEASE?*

S. M. WILEY, M.D., Norristown, Pa.

For the length of time alcohol has been used, the modes of practice and the opinions or theories as regards its therapeutic indications and physiologic action are most various. One individual asserts that it elevates the temperature, another that it depresses it, still another that it has no affect at all upon the temperature. One claims that it stimulates, another that it has no stimulant effect, but is a depressant and paralyzant. One claims that it is a food, another that it is in no sense a food, and, on the contrary, prevents and interferes with oxidative changes.

Where is the truth? Why is it the truth has not been found? Why have we such a variety of opinions? Certainly not from want of opportunity for observing its action. It has been used in all manner and kinds of cases. Only recently has there been heard the "voice of one crying in the wilderness."

This drug has been used in cases of

* Read before the meeting of the Montgomery County Medical Society, June 9, 1896.

exhaustion and failing circulation, coma, collapse, diphtheria, pneumonia, consumption, typhoid fever, post-partum hemorrhage, etc.; in fact, in every condition when the patient hovers between life and death; and even to forestall these conditions it has been administered regularly from the beginning of the disease.

Within recent years men have come to the front who were not willing to accept the unproven theories of the past, even though they might have weight of years for their supposed authority. Such men as Martin, Ricord, Davis, of Chicago, and many others, eminent in their profession, found that their experience did not agree with that of the old school, and determined to put the matter to a crucial test.

Hitherto, no absolute data could be acquired upon which to found a positive opinion of alcohol as a medicinal remedy, for the reason that up to this time alcohol had been so universally used to the exclusion of other agencies, that if the patient got well one could not say whether it was because of or despite the remedy. And as so little was understood of the toxic effect of alcohol, when the patient died it could not even be known whether he had died of or by the remedy. Unlike the fortunate mortal upon whose demise, twelve men, good and true, declared that "he died without the aid of a physician," the decease of these may have been hastened by the physician.

I wish to quote you, as appropriate to the subject, from THE MEDICAL AND SURGICAL REPORTER, April 18. The article is from the pen of J. M. French, Milford, Mass.

We have yet to make some remarks upon the very extensive use of large amounts of alcohol in pneumonia. Without doubt, the free use of alcohol is necessary in drunkards, especially when delirium tremens is beginning, or is already pronounced. Since the withdrawal of any poison that is taken habitually, like nicotine or morphine, may excite the severest symptoms, the sudden withdrawal of alcohol from drunkards may have the worst results; while if we give an abundant supply of the stimulant to which the nervous system is accustomed, we sometimes succeed in avoiding the onset of severe nervous symptoms, like collapse and failure of the heart and respiration. It is quite a different thing with patients who, before their illness, have not been accustomed to take alcohol at all, or who took it only in small amounts. It may be true that in these cases small amounts of wine may have a stimulating and exciting action, although we could never satisfy ourselves of the often-praised influence of alcohol upon the action of the heart. We hold it, however, unjustifiable to force large amounts of alcohol indiscriminately upon every patient with pneumonia, often in spite of great resistance upon his part. Why should we expect sick people to bear doses of alcohol, which have only bad results in healthy men unaccustomed to them?

Dr. William F. Waugh, of Chicago, formerly editor of the Philadelphia *Medical Times and Register*, takes issue with a correspondent advising the use of alcohol in diphtheria. He says: "As I look back at my years of practice since I thoroughly comprehended the importance of antiseptic treatment in this disease, I fail to recall a case in which alcohol did not do more harm than good. Recently, I have not given it in any case of diphtheria proper. In laryngeal diphtheria or membranous croup, alcohol may act as a sedative, restraining a tendency to such exertion as will bring on paroxysms of strangling, but I prefer opium. However, the necessity for operation comes so soon, and is so urgent, that the space for sedatives is but slight. Of what use is alcohol in medicine? As a heart tonic, we have a better in digitalin; as a lung tonic, we have a vastly better in strychnine; as a food, we have a dozen better. Nitrite of amyl acts quicker. Atropine warms one up better. Capsicum is a better remedy for collapse. What use is there for alcohol in which we cannot do better? To tide over a dangerous time I would prefer to take my chances with iron, quinine, and strychnine, concentrated food, and attention to hygiene."

Dr. Alonzo Bryan, in the *Physician and Surgeon*, declares his belief that it is in diphtheria that the most direful results of alcohol are to be seen. In that disease, he says, the vast majority of cases die by asthenia, or else by sudden failure of the heart. After picturing their condition, he says: "Now in such a state of imminent danger, brought about by such causes, what could be worse than to administer an agent which notably reduces temperature, and at the same time enfeebles muscular power?"

Most authors still class alcohol as a stimulant. Alcohol, ether, digitalis are given as cardiac tonics to the same patient on the same day. Tested by every scientific appliance, alcohol and ether directly diminish nervous sensibility, interfere with elimination and metabolism, and diminish oxidation.

Let me read again from the REPORTER, same author, March 7:

Webster defines a stimulant, medicinally considered as an agent which produces an increase of vital action in the organism, or any of its parts. In discussing the question whether or not alcohol is properly entitled to be classed as a stimulant, let it be understood that I am considering the primal basic action of the drug, and not any special or incidental effect. The question is not whether alcohol is capable, in particular organs and under certain conditions, of producing results

which either are, or at first sight closely resemble, the effects of stimulation; but whether stimulation is its fundamental, universal, and most important effect. To illustrate, chloroform is capable, under certain conditions, of producing vesication; but no one would think of classifying chloroform as a counter-irritant. I have known quinine several times in the same individual, to produce a condition so closely resembling scarlatina as to be unhesitatingly pronounced as such by a consulting physician of wide experience, yet I do not look upon quinine as a specific disease-germ.

I am aware that the theory of the stimulant action of alcohol is held by a large proportion—probably a large majority—of the medical profession, and that it has the sanction of a long line of authority. Since its dawn in history, alcohol has almost universally been regarded as the type and acme of stimulants. It has been used to promote health and prevent disease; to increase appetite and digestion, and create strength; to relieve pain, revive the spirits, and avert the blues; to overcome depression, prevent heart failure, induce reaction in shock, and bridge over the period of crisis in fever; and always and everywhere on the theory that its fundamental action is that of a stimulant.

My contention is, on the other hand, that the basic action of alcohol is never that of a stimulant, a tonic, an excitant of vital activity; but always the exact opposite—that of a sedative, an anæsthetic, a paralyzant; that whenever any apparent stimulant effect results from its use, such effect is always incidental, partial and at the expense of other and more important contrary actions; that for purposes of stimulation we possess other agents, simpler, more positive and more reliable in their action, as well as more economical of vital force; and hence, that the occasions when alcohol may properly be used for this object are very few.

In looking over his armamentarium, the physician finds three important agents which are closely related. These are alcohol, ether and chloroform. Chemically considered, they resemble each other in their origin and nature. Ether is formed from alcohol by the action of sulphuric acid, and chloroform by the action of chlorine gas. The formula of alcohol is made up by uniting the radical C_2H_5 with the radical HO. That of ether is derived from this by substituting a second radical C_2H_5, in place of the atom of hydrogen HO thus—C_2H_5, C_2H_5O. Common alcohol is ethyl-alcohol; ether is ethyl-oxide.

Therapeutically, also, they resemble each other very closely. Who that has ever witnessed the process of etherization, or the production of anæsthesia by chloroform, has failed to note the close correspondence to the steps of alcoholic intoxication? And wherein lies the difference between a man thoroughly under the influence of an anæsthetic on a surgeon's table, and one who lies dead drunk in the gutter? In the slang of the street it is said of a drunken man, "He is paralyzed;" and how can we more perfectly describe the subject of anesthesia?

There is another group of remedies which the physician carries in his pocket-case for emergencies, not less indispensable than those I have mentioned, but very unlike them in properties. These are atropia, strychnia, and digitalis—remedies unexcelled, unequalled, unapproached, for their proper uses, by any in the materia medica—potent for good and equally so for evil.

These two groups of remedies are physiologically antagonistic, therapeutically opposed to each other. The one are paralyzers; the other are stimulants. The one diminish and prevent vital action; the other increase and strengthen it. And alcohol is a paralyzant, not a stimulant.

Dr. H. C. Wood, of Philadelphia, in an address on anæsthesia, before the Tenth International Medical Congress, at Berlin, in 1890, stated in substance that nothing could more conclusively demonstrate the power of alcohol as a paralyzer of both the heart and respiration than the experiments which were detailed by him in that address. His conclusions were, that both clinical facts without number, and direct physiological experiments executed by himself and numerous other scientific observers, show that each of these three drugs, alcohol, chloroform, and ether, taken separately or all in combination, act as direct paralyzers, first of the cerebral hemispheres, producing anesthesia, and next of the respiratory and cardiac ganglia, thereby inducing death either by failure of the respiration or circulation, or by both simultaneously. These three agents act in direct proportion to the quantity used, there being no dose, however small, and no stage in the progress of their influence, when they increase either respiratory or cardiac efficiency. Acting in the same direction and on the same important functions, each intensifies and increases the effect of the others. In the closing paragraph of the address, in speaking of the management of accidents during anesthesia, he uses these words: "Avoid the use of all drugs except strychnine, digitalis, and ammonia. Use artificial forced respiration promptly, and in protracted cases employ artificial warmth and stimulation of the surface by the dry electric brush, etc.; and remember that some, perhaps many, of the deaths which have been set down as due to chloroform and ether, have been produced by the alcohol which has been given for the relief of the patient."

Dr. A. S. Davis, of Chicago, a physician of wide reputation and experience, a professor in the Chicago Medical College, one of the founders and twice president of the American Medical Association, who has given life-long study to the action of alcohol, says: "It has long been one of the noted paradoxes of human action, that the same individual should resort to the use of the same alcoholic drink to warm him in winter, to protect him from the heat of summer, to strengthen him when weak or weary, and to soothe or cheer him when afflicted in body or mind. All this is easily explained. The alcoholic drink does not relieve the individual from cold by increasing his temperature, nor from heat by cooling him, nor from weakness and exhaustion by nourishing his tissues, nor yet from affliction by increasing his nerve force; but simply by diminishing the sensibility of the brain and nerves, and thereby lessening his consciousness of impressions of all kinds, whether of heat or cold, weariness or pain. The same anesthetic properties that render the laboring man less conscious of suffering of the heat and cold or weariness, also render the sick man less conscious of suffering, either mental or physical, and thereby deceives both him and his physician by the appearance temporarily of more com-

fort. It is true that a physician can make the anesthetic properties of alcohol available for the temporary relief of pain and the production of sleep, but it is equally true that he has many other remedies more efficient for the purpose and less objectionable than alcohol.

As a result of experiments made at Heidelberg some time ago, it was determined that alcohol in quantity of seven grm. and two and one-half drams, lessens muscular and mental activity.

Why will we be continually deluded, and continue to give alcohol and digitalis to the same patient at the same time? For the past fifty or sixty years not one in ten presumed to treat cases of diphtheria, typhoid, pneumonia, without whiskey or brandy, and for the same length of time not more than one in ten undertook to treat pneumonia without blood-letting.

There is, however, a rapidly increasing number who have recently made a fair basis for comparison, and I do not know of one such who does not admit of better success without alcohol.

Alcohol is produced by bacterial fermentation, and its toxic effect is analogous to that of other substances produced in a similar manner. The Temperance Hospital, in London, has been successfully operated, with the best of results, for thirty-five years. The Red Cross Hospital, in New York, has been equally successful, and has now reached its twelfth year of usefulness. In those hospitals alcohol is not used in any medical or surgical disease.

Davis & Son, in Chicago, claim 1000 cases treated successfully in hospital and private practice without alcohol. There are 70,000 deaths each year, 6,000 each month, 200 each day, imputed to alcohol. More deaths occur from this drug than have resulted from all the wars in history.

The wrecked intellects, poverty, crime and ill-health resulting from its use are difficult to be computed. There are 30,000 criminals made so by alcohol. There are in hospitals 30,000, the offspring of alcoholics.

A drug so potent for evil cannot do good. So long as physicians prescribe its use, it will be abused, and they are responsible for results. I know of 150 men in this town, many of them patients of some of us, who are going down into drunkards' graves; and their places are ready to be filled by 150 more.

Are we doing our duty as responsible beings to encourage the use of this drug, dangerous alike to the health, life and immortality of so many of our fellow-beings?

Question.

Let any man who has followed this paper in a logical manner answer it.

EXCESSIVE MEAT EATING.

Ill-temper may be due to excessive meat eating, and hence is under the control of the person so afflicted by other means than that of the exercises of the will only. Mrs Ernest Hart in *Diet* says:—"One deplorable result of excessive meat eating in England is the ill-temper which is a chronic moral complaint among us. In no country, I believe, is home rendered so unhappy and life made so miserable by the ill-temper of those who are obliged to live together as in England. To everybody examples will occur of homes which are rendered quite unnecessarily unhappy, when they might be happy, by the moroseness and rudeness of the head of the family, by the peevishness of the wife, or by the quarreling of the younger members. If we compare domestic life and manners in England with those of other countries where meat does not form such an integral article of diet, a notable improvement will be remarked. In less meat-eating France urbanity is the rule of the home; in fish and rice-eating Japan harsh words are unknown, and an exquisite politeness to one another prevails even among the children who play together in the street. In Japan I never heard rude, angry words spoken by any but Englishmen. I am strongly of the opinion that the ill-temper of the English is caused in a great measure by a too abundant meat dietary, combined with a sedentary life. The half-oxidized products of albumen form urates and uric acid, which, ciruculating in the blood, produce both mental and moral disturbances.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:

A. L. BENEDICT, A.M., M.D.

SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, JULY 18, 1896.

EDITORIAL.

PERIPATETIC PROFESSORS AND THE SCHOOLS FOR THE PROFITS.

A disinterested onlooker will find quite a fund of cynical amusement in watching the maneuvers of that class of city physician, who is desirous of building up a consulting practice among his professional brethren who are located in some country town. On the other hand there is ground for both compassion and a certain sort of indignation also in watching the country practitioner and his attitude to the same city brother. The place where the performance in all its absurdity can be best seen is at the meeting of some suburban medical society.

There seems little or no reason why a man should hold himself cheaply merely because he conducts his business at some distance from the great marts of the world, and of no one is this more true than of the medical practitioner. What if he has not connected his name with some institution for pauperizing the public as a hospital, or with a college whose main *raison d'etre* seems to be the self-advancement and aggrandization of those connected with it? He has access to the most advanced medical literature of the day in the pages of the medical journal, and has a line of practice that

often in variety can compare with the cases brought before the staff of a hospital. His contact with humanity is of such a nature that it tends of itself to extend his mental horizon and broaden his sympathies for his kind. More than any of the so-called "great professors" does he come in contact with the patient whom he treats, and with the families of whom he is a cherished friend and confidant, and though the current of his life may seem to flow within narrow bounds, it flows the deeper for that apparent confinement.

The country doctor is the natural brake upon the profession. To his caution is due the fact that so many meretricious discoveries and inventions, at first exploited as the greatest of advances in medical science, find their true level and often sink into oblivion. He is not bought by any manufacturer of proprietary remedies, is not controlled by any institution which he must uphold, right or wrong, and has no necessity to advertise himself by the cheap clap-trap used by so many who rise amid the competition of the cities. Where these talk theory he can give them experience; not, it is true, heralded through the lay press as examples of his wonderful skill, but experience that makes him quick to deal with emergencies, skilful in making the most out of the least facilities and practical in placing first the good of the individual and not the advertising of a theory.

To this man, in the meetings he and his kind have instituted for their mutual benefit in exchanging the ideas gained in their practice, comes the great Dr. Bigwig from the city. He listens to their "little talks" with an air of calm superiority, benignly patronizes the papers that are read, and with an air of condescension, impossible to fitly depict, gives his comments thereon. It is true, the paper or the remarks may be the judicial presentment of facts gained by experience, and it is also true that the visitor may not have attended 100 cases of any kind in his life and may have had none at all of the peculiarities described (for, strange as it may seem to the country doctor, some of these men who are working them for their consulting practice have very little of their own), yet he blandly says: "I have listened to the remarks of Dr. So-and-so with much pleasure, but the latest authorities claim"—something often the direct opposite of what the other man has seen.

Nine times out of ten, the country doctor will bow with submission to the criticism thus uttered, even though it be a mere theory just advanced and by no means proved. In just that way was a paper upon consumption received some years ago in a New England medical society meeting by a young New York physician, who, not being bothered with any excess of patients, had thus time to go about instructing his country brothers in the late developments of science, and incidentally impressing them that he was one of the best men to call in for consultation when "more light" was needed. The paper in question was a valuable one, dealing with the contagiousness of the disease, and with means for prolonging life with comfort to the patient and those in attendance. The criticism was that the essayist was behind the times, since lung diseases could be greatly benefited and even cured by the introduction of H_2S into the rectum three times daily, compelling the patient to hold the gas there for at least ten minutes. An ar-

rangement of bottles, rubber tubing, etc., was shown, the gas was generated, and instruction given as to the method of operation, together with very large statements of "cases" where remarkable improvement had been recorded. All the country doctors stood agape and asked questions until the visitor swelled with importance. One dissenting brother, old in practice, was promptly frowned down for venturing the remark, *sotto voce*, that he thought just as good results could be obtained by feeding the patient on beans and then corking up the vent for the gas to escape. Within a few months a number of cases, not only in the line of lung troubles, but also in other somewhat obscure troubles, were referred to the adroit visitor. As he doubtless worked the same "racket" at other medical meetings, taking up other hobbies as the original ones were exploded, he must have thus got the start that has since made him such a name as a consultant.

The same plan of humbuggery is practiced to-day, and the city man is received with as much deference as he was then. What if he has dropped all his first "great discoveries" and is now advancing other theories? That is but marking his advance in the paths of science. What if his airs of patronage are insufferable to some? That must be professional jealousy, that bugbear to scare the timid man. What if some of the older men have had experiences diametrically opposite to the theories he so smoothly advances? That is conservatism, and my dear friends, we must not be too conservative when the great men of New York, Philadelphia, Boston or Chicago deign to come to make hay in the sunshine of their own smiles upon us.

Too frequently this attitude has been assumed, and it is to be deprecated. The members of the country Medical Societies should always of course treat all visitors with courtesy, but it is well to not always implicitly believe in the disinterestedness of their motives, nor to always swallow without salt all the magniloquent statements they make. It is not from pure goodness that they seek opportunities to impress with the extent of their information or give the latest thing in surgery or treatment. Nor, if the country practitioner lives up to all his lights, is there any need that he should be thus enlightened by the effulgent suns of the city firmament. Modesty is pleasing it is true, but proper self-confidence should not be wanting, and it is in the latter quality the suburban doctor is most apt to be lacking when thrown in contact with his city fellow-practitioner.

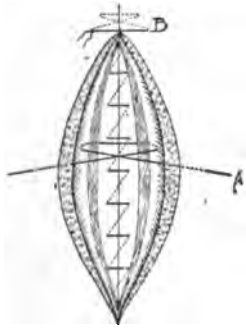
Yet, after all, but few city practitioners are of this peripatetic piratic stamp. The majority are those who attend the meetings of country societies with a sincere desire to benefit by the ideas of their confreres, who acknowledge that the country doctor can "give them points" on many subjects and who recognize that, in vital matters theory must bow to experience. They are prepared to "give and take" in the highest sense of mental exchange and one will not find these men assuming that they are only giving, and that they do not benefit by what they hear. Such men occasionally relate a failure, once in a while acknowledge having met with symptoms that baffle them, and even have been known to tell of losing a case. They will always be welcome visitors to any gathering of medical men and when they gain reputation it is honestly earned, and no one will grudge to them the place they hold.

CORRESPONDENCE.

SUTURING ABDOMINAL WOUNDS WITHOUT BURIED SUTURES AND A SUTURE CLAMP TO BE USED INSTEAD OF HEMOSTATIC FORCEPS IN ABDOMINAL WORK.

EDITOR OF THE REPORTER:—

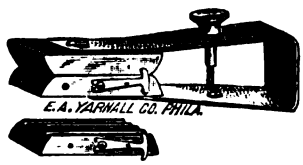
Most gynecological and abdominal surgeons have been troubled with hernias following their abdominal operations. Many have sought to overcome this tendency by different methods of operation, the most successful so far having been Dr. Edebohl's, with his three rows of sutures, from peritoneum to peritoneum, with buried catgut sutures; rectus muscle to rectus muscle, with buried silk or chromatized catgut sutures; and skin and superficial fascia to skin and superficial fascia, with silk or silk-worm gut, as surface stitches. Quite a number have refused to adopt this method, fearing danger from the



buried sutures in the recti muscles, and most of those who have adopted it are abandoning it, owing to the stitch abscesses that so often follow their use.

In thinking over the subject it occurred to me that the buried sutures in the recti muscles could be overcome in the following manner: Stitch peritoneum to peritoneum, as in Dr. Edebohl's method; then thread a half-curved needle with a piece of silk, twelve or fourteen inches long, seize the skin and superficial fascia on the right side and pass the needle through from above at the usual distance from the edge of the wound; then carry it over to and through the left rectus muscle also from above; then carry it back to the rectus muscle on the right and pass the needle through it from beneath; then, crossing with it to the left side, bring it out through the skin and superficial fascia, at a point just opposite the first insertion. This gives the operator entire control of the recti muscles as seen by the accompanying diagram. A. shows crossing the ends and tying in the ordinary manner. B. draws the edges of the wound firmly together, from bottom to top. On removing the stitches, which is easily done in the ordinary manner, the wound is left free from buried sutures, except the catgut in the peritoneum. Operators who object to these could get rid of them by catching the peritoneum with the recti muscles, and finish the operation as directed above.

I have had this suture-clamp constructed to do away with so many hemostatic forceps. I find that most surgeons in closing abdominal wounds, clasp both ends of each suture with a hemostat, if they can find forceps enough; if not, they catch as many sutures on each side, with each hemostat, as possible, uncatching and catching them every time a suture is inserted, so that by the time the stitches are all in place, they either have from six to ten forceps on each side, dangling in the way, or two or three holding many sutures each.



This instrument, as can be seen by the accompanying cut, has the grooves or teeth parallel with its jaws instead

of transverse. The end of each movable jaw stands back in the middle when closed, so that sutures can be slipped in from the end without unclamping it, the grooves preventing them from being pulled out sidewise. Placing one of these clamps on each side of the wound, all the sutures can be slipped into them. One or more can be removed at a time, at the will of the operator, without unclamping the instrument. The clamp is thoroughly aseptic, having a French lock, so that every piece can be taken apart.

J. NEELY RHOADS.

Philadelphia, July 8, 1896.

ABSTRACTS.

THE SURGICAL TREATMENT OF FIBROIDS.*

Uterine fibroids vary so greatly in situation, consistence, rate of growth, and other particulars, and consequently give rise to symptoms of such variable severity, that it is obvious that no one surgical procedure is applicable to all cases. The term "fibroid" is used with a considerable looseness to describe tumors which anatomically do not seem to have much in common, except that they spring from the uterine substance, and do not possess the qualities usually connoted by the term "malignancy." The single soft, red myoma, possessing no capsule, and often growing very rapidly, does not, at first sight, seem to have much in common with the small hard, whitish nodules which are so often found scattered through the substance of the uterine wall and permit of easy enucleation. Yet the existence of a multiplicity of intermediate forms makes it probable that the difference is in the main one of degree only, and that their mode of origin, of which no satisfactory theory has ever been offered, is probably the same. The two great questions the surgeon is called upon to answer in any particular case are: (1) Is surgical interference of any kind called for? and (2) if surgical interference be necessary, what operation will best meet the indications of the case under observation? The first question is sometimes very easy, and at other times very difficult to answer. In cases of large and rapidly-growing tumors, where the size of the mass is sufficient to interfere seriously with the health and comfort of the patient, we need feel no hesitation in advising an operation; and, on the other hand, in cases where, although the tumor may be large enough to reach up to or nearly up to the level of the navel, yet there are few or no symptoms present, we may with equal confidence recommend the patient to let matters remain as they are.

Tumors large enough to fill up and distend the abdomen obviously demand operative interference, but the smaller tumors, which do not immediately threaten life, although seriously interfering with ordinary duties and pleasures, render the decision as to the line to adopt often far from easy. Hemorrhage and pain are the two most prominent of the symptoms in these cases, and although medicinal treatment may do something to relieve these troubles, the patient is still often reduced to a condition of semi-invalidism, which to those who possess the capacity for enjoyment proves extremely irksome. Under such circumstances, can we recommend a patient to undergo an operation which is distinctly not free from risk to life, or should we urge that they resign themselves to this condition of invalidism until the menopause comes and sets them free? The constantly recurring losses of blood, and the weakness it entails, although not actually endangering life, render it in many cases so unsatisfactory that the patient, especially if young, is willing to run some immediate risk, if it holds out a reasonable pros-

*W. J. Good, in *Practitioner*.

pect of relief. A disease which, although it does not tend to kill, takes away all that makes life worth living certainly justifies surgical interference, if by that means the patient can be cured, although some immediate risk to life is thereby incurred. It is a poor comfort to a woman of forty to tell her that she will probably be quite well after she has attained the age of fifty-five. The whole question turns upon the amount of risk which the operation entails and the likelihood it offers of obtaining relief. In any particular case that operation should be chosen which, while sufficient to relieve the symptoms, will expose the patient to the least amount of risk compatible with efficiency. It is with the operative measures that have been devised to meet these conditions that we are here chiefly concerned.

1. *Ligature of the uterine arteries.*—This method, which was first suggested by Gottschalk, has never been very widely employed. The *rationale* of the procedure is that by partially cutting off the blood supply of the uterus the tumors will not only cease to increase in size, but will shrink as the result of diminished nutrition. The operation does not mutilate the patient, and is practically devoid of risk in careful hands. It is claimed that in certain cases the fibroids completely disappear, and even when this does not occur, the excessive menstrual loss is effectively controlled. The worst that can be urged against this operation is that it is frequently unsuccessful, and this has led to its falling into disrepute. It is impossible to deny, however, that it sometimes succeeds, and that in the cases that are successful a more perfect cure is obtained than by any other method, the patient having, moreover, been exposed to the minimum of risk. It is, unfortunately, not altogether easy to arrive at a just estimate of the ratio between successes and failures. The operation is applicable only to cases in which the fibroids are medium-sized or small, and where there is no marked bulging towards the sides of the pelvis. Vaginal extirpation of the uterus and oöphorectomy have to a large extent superseded this operation, but it is questionable whether it might not be revived with advantage in certain cases where the patient is near the menopause and is suffering from severe menorrhagia. The want of success in some of the cases may have been due to the fact that the operator has failed to apply the ligature around the main trunk of the artery. The operation is a simple one. The patient is placed in the lithotomy position, and a duck-bill speculum having been introduced, the cervix is drawn down with a volsella. A transverse incision is made across the vagina at its junction with the portio, so as to open the connective-tissue space between the bladder and supravaginal cervix. The incision is carried backwards just beyond the lateral utero-vaginal junction, care being taken not to open Douglas's pouch. An aneurysm needle armed with a silk ligature is now introduced and passed around each uterine artery. After each ligature is tied the original incision is closed by a few sutures.

2. *Oöphorectomy.*—This operation still holds its ground as a recognized method of treatment in certain cases of uterine fibroids, although gynæcologists differ as to the amount of good which it does. It is especially indicated in medium-sized interstitial and submucous growths where hemorrhage is a prominent symptom. Fehling, who is a warm advocate of this operation, removes the ovaries (1) in all rapidly-growing tumors which have not yet reached the navel; (2) in growing tumors occurring in young women between the ages of twenty and thirty; (3) in interstitial fibroids and broad-based subserous and submucous fibroids; (4) in intraligamentous tumors.

If pressure symptoms are marked, there is some difference of opinion as to the benefit obtained by the operation. Pozzi believes that oöphorectomy does not eliminate pressure symptoms; whilst Cullingworth considers that the operation is peculiarly applicable in cases where the tumors are mainly intrapelvic and the relief or prevention of dangerous pressure symptoms is called for. The operation is contra-indicated in very large tumors, especially if fibrocystic, and in subserous fibroids. The advantages claimed for this operation are, in the first place, its comparative safety; and, secondly, that in a large proportion of the cases—probably about 80 per cent.—marked improvement re-

sults. Not only does the hemorrhage cease, but the tumor usually shrinks. The operation is a rapid and easy one, and at the present day is certainly distinctly less dangerous than abdominal hysterectomy. On the other hand, it must be remembered that, as the result of dense adhesions, the operation is not always practicable, and that this point cannot be determined until after the abdomen has been opened. Again, in a certain number of cases the hemorrhage persists; and this, no doubt, is the most serious argument against the operation, although the loss of the ovaries and the subsequent vaso-motor and nervous disturbances must not be overlooked in determining its merits. The only risk, apart from the slipping of a badly-tied ligature, is septic infection, and this ought to be capable of being entirely guarded against if proper precautions were taken. A death from this operation shows that there has been a distinct failure in the antiseptic technique; and the fact that deaths still do occur after oöphorectomy, simply illustrates the fact that antiseptic methods as still employed are frequently faulty and imperfect. Vaginal hysterectomy by *morcellement* is preferred by Pozzi and others to oöphorectomy if the uterus does not reach above the naval. Of the operation itself, it is necessary to say but little. When the abdomen is opened, both appendages should be carefully examined, with a view to determine whether they can be drawn up and removed. Sometimes the appendage on one side is so adherent that it cannot be dealt with, and then it is generally wiser to resort to hysterectomy, as the removal of only one ovary is of but little service. It is true that it occasionally happens that the excision of one ovary is followed by the cessation of hemorrhage, but this is not a common experience, and cannot be relied on. The appendages should be ligatured as close to the uterus as possible, and no ovarian tissue should be left behind. A two-inch abdominal incision is generally all that is necessary.

3. *Enucleation of Fibroids.*—Fibroids of the harder sort may be enucleated from their bed either through the abdomen or through the vagina. In the former case the operation is described as myomectomy. Myomectomy is most suitable for cases where the uterus is no much enlarged and without multiple fibroid, but has a large subperitoneal fibroid attached to it by a comparatively narrow neck. In other cases the results are, on the whole, not so favorable as in hysterectomy, although it is true the uterus is preserved. The name of Martin, of Berlin, is especially connected with this operation, and he does not confine himself to the removal of subperitoneal tumors, but employs the method in the removal of interstitial tumors as well. After the tumor is shelled out from its bed, the space left is brought together by layers of buried sutures, and finally the peritoneum is united over it. Several tumors may be dealt with in this way, and the hemorrhage may, if necessary, be checked during the operation by a temporary elastic ligature. The operation, however, except under special circumstances, is not one which is likely ever to be widely adopted, because the risks are not less than those attending complete removal of the uterus, and the likelihood of a permanent cure is not so great. In Martin's hands the mortality appears to have been about 18 per cent.

Enucleation through the vagina is especially called for in cases where the tumor is submucous and projects downwards through the dilated cervical canal, In other cases, where small submucous fibroids are present, which give rise to much hemorrhage, enucleation is sometimes attended with great success. Under these circumstances, the condition is only diagnosed after the introduction of the finger through the cervical canal, which has been previously dilated. Although other tumors may be present which cannot be felt or removed by this route, hemorrhage may be checked for a time; and if the patient is near the menopause, relief may be obtained without the necessity arising for any more formidable operation. Even when the uterus is considerably enlarged by the presence of subperitoneal and interstitial growths, the removal by enucleation of those that are submucous may tide over the patient until the arrival of the physiological menopause. In these cases free dilatation of the cervical canal by

means of tents must be obtained before enucleation is commenced.

4. *Hysterectomy.*—This operation consists in the removal of the entire uterus or the uterine body alone, either through the vagina or through an abdominal incision.

(*a*) *Vaginal hysterectomy* for fibroids is clearly only possible when the tumor is not too large. Péan, who is the chief advocate of this operation, removes by this route tumors which are large enough to reach up to the navel, but the difficulty under these circumstances is considerable. The tumor is removed piecemeal, the uterine arteries having been previously secured. Péan claims that the operation gives much more certain results than oöphorectomy, and is unassociated with the shock so often seen after removal of the uterus through an abdominal incision. The patients, moreover, are enabled to get out of bed at an earlier date, and there is no abdominal scar or liability to ventral hernia. In 300 vaginal hysterectomies performed by Péan for fibroids between the years 1882 and 1893 the mortality was two per cent.; and Leopold since 1889 has operated on 24 similar cases with no death.

The field of operation should be fully exposed, and morcellation should not be attempted until the uterine arteries have been ligatured or clamped. As morcellation is continued and the broad ligaments divided, firm and continuous traction should be made by an assistant with strong volsella forceps, as by this means the hemorrhage is efficiently controlled.

The cervix is freed in front and behind and then the anterior lip is divided in the middle line as high as possible. Fibroid nodules present in the anterior wall are seized and removed entire or piecemeal, the median incision being continued to a higher and higher level as the uterus is drawn further down. When the fibroid tumors appear to spring mostly from the posterior wall this part may be attacked first. In some cases where it is not found possible to control the uterine arteries at the commencement of the operation, the process of removal by *morcellement* is found not to cause dangerous hemorrhage if firm traction is kept up by means of *volsellæ* fixed into the cervix. These vessels should, however, be secured by clamps or ligatures as soon as it is practicable to do so.

Segond, Richelot and others are advocates of this method, and there seems to be no doubt that in cases where fibroid tumors no larger than a child's head require surgical interference this operation gives better results and is safer than any other. The dangers of the operation are certainly not greater than those of oöphorectomy, but unlike oöphorectomy it never fails to cure, and there is besides the additional advantage that the ovaries are left behind. The physiological effects produced by the removal of the ovaries are well known, but the effects, if any, of removal of the uterus without the ovaries are not worked out; it seems probable, however, that many of the disagreeable symptoms observed after oöphorectomy are not seen in those cases where the menopause is induced by removal of the uterus. It is a question of much interest whether a woman with no uterus is in a better position than a woman with no ovaries; but no very definite answer can as yet be given.

(*b*) *Abdominal Hysterectomy.* — There are an immense number of different ways of performing abdominal hysterectomy, and it is impossible to attempt to adjudicate as to the comparative merits of the different operations. The stump, if the body of the uterus is alone removed, is the chief source of danger, and operators still contend as to whether it is better to constrict it with a *serre-nœud* or elastic ligature and fix it to the lower angle of the abdominal wound, or after ligaturing the vessels and appropriately covering it with peritoneum to drop it back into the abdominal cavity. During the evolution of the operation of ovariotomy the pedicle was for a time treated extraperitoneally; but this stage of development is long past, and it is probable that in the future the use of the *serre-nœud* or elastic ligature will become less and less frequent. The fear of hemorrhage and the risks of septicæmia have been the chief objections raised to the so-called intraperitoneal treatment of the stump, but it is being recognized more and more widely that if both the ovarian and uterine arteries are carefully ligatured the danger of hemorrhage does not exist. To assert that septic in-

fection is likely to occur is to condemn, not the operation, but the antiseptic technique that is employed. The advantages of being able to close at once the whole length of the adominal incision and the absence of a decomposing stump are manifest, and the only thing that could be urged in favor of the employment of the *serre-nœud* is that it is safer.

This, of course, is a very potent argument, and one that can overrule all objections; but although undoubtedly it was true ten years ago, it does not necessarily follow that it is true now. With an increasing knowledge of intraperitoneal technique and antiseptic surgery this advantage on the side of the *serre-nœud* has become less and less marked, and at the present time it appears that in competent hands the intraperitoneal treatment of the stump is as safe or safer than the extraperitoneal. All that is necessary is careful hæmostasis and rigid antiseptic precautions. When those who practise the intraperitoneal method can prove that their results are as good as those obtained by surgeons who deal with the stump extraperitoneally, the case for the intraperitoneal method will have been made out, because, except for the alleged increase in the risk, nothing else can be urged against its claim to superiority.

The details of the management of the stump when the intraperitoneal plan is adopted vary somewhat; but the method advocated by Baer is a popular one at the present day. The essential feature of Baer's operation consists in the securing of the ovarian and uterine arteries before the tumor is cut away, so as to avoid the necessity of applying a ligature to any part of the stump. The peritoneum is united over the raw surface of the stump with great care, but no sutures are introduced into the stump itself. This plan has many obvious advantages over that of transfixing the stump and including in the ligatures intended to control the uterine arteries large masses of muscular tissue; but there seems to be no real objection to checking slight oozing from the face of the stump by the introduction of two sutures from before backwards through the tissues of the cervix.

How much any particular method has to do with the success obtained by the operator may well be called into question when we find that Leopold, who between 1889 and 1894 performed ninety abominal hysterectomies with a mortality rate of 4.4 per cent., employs a system which in some points differs markedly from that of Baer. The broad ligaments are tied in sections with silk ligatures, the uterine artery and veins being tied *en masse*. The tumor is cut away and the cervical canal cauterized. The stump is then transfixed and ligatured in two portions with stout silk, the ends of which are cut short and the peritoneal flaps are sutured over the stump with fine silk, including a portion of the subjacent cervical tissue. The abdomen is closed without drainage. The two points of agreement between Baer and Leopold are the separate ligature of the uterine arteries and the careful apposition of the peritoneal flaps over the face of the stump.

Owing to the supposed danger of the stump, the operation of panhysterectomy, or removal of the whole uterus and cervix, has been from time to time advocated. It has, no doubt, certain theoretical advantages, but the main reason why it is not more often employed is that it is somewhat more complicated and takes longer; so that unless a very distinct gain can be shown to be obtained by the removal of the cervix, panhysterectomy is not likely to become the operation of the future. There are various ways in which this operation can be done. The cervix may first be detached from below up to the level of the os internum, the patient being in the lithotomy position, and then, the abdomen being opened, the other attachments are ligatured and divided and the mass removed. Some, however, prefer to remove the uterine body in the ordinary way, and then, having placed the patient in a suitable position, to remove the cervix *per vaginam*. Both uterus and cervix can, however, be removed through the abdominal incision without resorting any change of position in the patient, and this undoubtedly is a great convenience. Martin performs panhysterectomy in the following way:—The broad ligaments are ligatured and divided in the ordinary way down to the level of the supra-vaginal cervix. The uterus, which is thus

rendered mobile, is drawn upon so as to make the sacro-uterine ligaments tense, when they can easily be divided with scissors. The posterior vaginal vault is then opened from above with scissors and the peritoneum sewn to it. The stumps of the broad ligaments are then fixed one on each side to the opening in the vaginal vault by sutures. The anterior attachments are next divided, and in like manner the anterior edge of the vagina is united to the peritoneum. The ligatures are drawn down into the vagina and the peritoneum is drawn over everything and united by a continuous suture.

Some operators find it convenient to have the anterior and posterior fornices pressed up from below either by specially devised instruments or by the finger of an assistant, so as to make it easier to open the vagina. There is not sufficient evidence at the present time to show whether this operation is or is not safer than that of abdominal hysterectomy, with so-called intraperitoneal treatment of the pedicle.

Abdominal hysterectomy for fibroids will always remain a more or less formidable operation, and one that will not be undertaken lightly without adequate cause; but there seems to be every reason to hope that the mortality may with care be reduced nearly to that of ovariotomy —that is to say, to not more than 5 per cent.

SOCIETY REPORTS.

MONTGOMERY COUNTY MEDICAL SOCIETY.

Meeting of June 21, 1896.

Under the head of new business a motion was offered recommending the appointment of a committee of three to confer and formulate a plan of action looking toward the restriction of the sale of proprietary medicines and patent nostrums, to be submitted at the next regular meeting.

DISCUSSION.

DR. HUNSBERGER: The amount expended needlessly for patent nostrums is appalling. In Germany the law compels the publishing upon the label of each package in plain German the formula of medicine contained in the same. As a result of this, very little patent medicine is sold in Germany.

I was appointed, in connection with Dr. Shaw, by the State convention, lately in session at Harrisburg, to investigate this matter, bring it before the legislative body and see what could be done. I have spoken to some of the members of that body, and was informed that if there could be found some one to push the matter, we could no doubt obtain a law to regulate the sale.

The evil is growing, and demands the attention of the medical profession. If suitable laws can be enforced, regulating the sale of adulterated foods, there is no reason why irregular preparations, whose scope for harm is much larger, may not also be brought within the jurisdiction of the law

THE PRESIDENT: The suggestion is a good one.

DR. WHITCOMB: It would be well to appoint a committee in the line of seeing what can be done.

THE PRESIDENT: I think such a committee should be appointed, if only to put this society on record as lending the weight of its influence toward curbing the illicit practice. So far as travelling fakirs are concerned, there is a law prohibiting the sale of any article of merchandise without a local license. Some time ago I was the means of causing the arrest of a whole troupe of fakirs in this town. These people were doing a thriving business selling some nostrum, and in their customary vernacular did not hesitate to denounce the local physicians and whole medical profession. They were arrested, made to pay the costs of prosecution, and given twenty-four hours to leave town.

DR. ——: What was the basis of prosecution in that case?

THE PRESIDENT: It was shown that they had no diploma, no pharmaceutical license, no mercantile license. There is no license issued which will allow peddling from town to town; a local license is required.

DR. HUNSBERGER: I remember a case in point in which two plausible men travelled

through the country, driving a handsome team and selling a simple preparation of senna leaves. I am convinced that they took in at least $1000 in thirty days. At some farms as much as $20 was obtained; at others from $5 to $10. It is the rankest kind of swindle and beats the gold brick trick. Many are made sick, or, if already sick, are made worse by taking the preparations. The only way to regulate the imposition is to compel all patent-medicine venders to publish their formulæ.

Resolution adopted unanimously, and the following were appointed: Hunzberger, Weaver, Umstead.

DR. WATSON requested copies of transactions of Montgomery County Medical Society from date of earliest publication for use at Norristown Insane Asylum.

Request granted.

DR. S. M. WYLIE read a paper, "Is Alcohol Essential or Necessary in the Treatment of Disease?"

[See page 78.]

DISCUSSION.

DR. J. O. KNIGHT: I regret that Dr. Wylie was not more explicit in finding the answer to the question included in the title. Is any one remedy essential or necessary, or cannot we in many cases substitute another. I have met physicians who rarely gave opium. I have a patient to whom I have never given opium in any form during the past twenty years. I have discarded its use in that case altogether. Dr. ———, some years since, strongly advocated arsenic as superior to quinine in the treatment of malarial fever. Many physicians have dropped calomel from their armamentarium. Mercury in any form has been held injurious by many members of the profession. Every physician should use judgment in his adaptation of a remedy.

The number of therapeutic preparations is legion; some deemed useful, others useless, but all must be used with discretion. Long-continued experience with particular remedies render those using them familiar with their action. They know what to expect and what to avoid, how to increase dosage, how lessen the same, when to avoid the drug entirely. With a man of such calibre, there is no vacillation at the whim of the patient or his friends. He does not give alcohol because it is advocated by some special writer or text-book, but to meet some special indications,—such as certain forms of prostration, or, in some cases, to promote digestion, improve appetite, etc. Whatever the physiologic and therapeutic effects of alcohol may be, I know no text-book that fails to recommend alcohol to meet certain indications. Will Dr. Wylie answer me if I am not correct?

DR. WYLIE: I am sorry to say so; but I must recognize the truth of the assertion, and can only explain the fact by stating that most text-books are written in the offices of physicians who have not had large practical experience.

DR. KNIGHT: Dr. DaCosta strongly advised alcohol in certain indications. Drs. Keen and White use alcohol in shock, and recommend its use under certain conditions, as did the late Samuel Gross. Whose opinion should be taken?

DR. WYLIE: Of all these men mentioned by Dr. Knight, none had had the practical experience which could satisfy the test by treating similar conditions with and without alcohol. They did not have the advantage of the precise experiments, which are a part of the advance in modern medicine. They followed the prevailing method of practice, and probably had not spent thirty days or thirty hours in investigating recently-developed theories of the action of the drug.

DR. KNIGHT: The profession in general are strong in their recommendation of alcohol, and surely teach that it is necessary. No one deprecates more than I the abuse of alcohol. Is alcohol responsible for all the deaths accorded it, or is it only its abuse that is responsible? In China, opium is as much abused as is alcohol in the rest of the world. Alcohol in small doses surely stimulates, and in proper cases is as sure and useful as any drug we possess. In weak and exhausted conditions, after the febrile condition has disappeared, the patient rallies better. In accidents, accompanied by hemorrhage and followed by shock, better results can be attained with the use of alcohol.

The old saying, "It is not well to spur a jaded horse," does not always hold true, for the reason that there may be circumstances, even in the literal interpretation of the proverb, when it may not be safe to spare the beast, and the use of the spur may mean ultimate safety, both to rider and horse. So there may be occasions, as in a flagging heart, when it is wise to use alcohol for a time. In either case, when we arrive at the top of the hill the question of discontinuance is then appropriate. In certain conditions of sick stomach, with vomiting, there is no better remedy than champagne. In vomiting of pregnancy, champagne or Rhenish wine are better remedies than any I am acquainted with, and their use will frequently remove a patient from a condition of grave import to one of comparative security. In children, reduced from febrile conditions, wine is very useful, and under its use they will recuperate more rapidly than with anything I can prescribe.

Strychnia is useful to combat nervous shock, alcohol in flagging heart, or after loss of blood with consequent shock. Dr. Richardson says nothing is so beneficial, when we have a patient sick, exhausted and weak, as milk-punch. Jacobi says alcohol is undoubtedly a stimulant in small doses. In large doses it may be a depressant and paralyzant. Dr. Wiley speaks of alcohol as having a power for evil equal to the lancet in pneumonia, some ten years or so ago. The late Dr. Hiram Corson claims the lancet does no harm in pneumonia. Jacobi has lately published a work in

which he has recommended as much as four ounces of alcohol in a single dose in diphtheria.

I wish to refer to the instance cited by Dr. Wiley of the two children, who were taking the mixture of whiskey, glycerine and paregoric. Undoubtedly it was the paregoric in that case that did the mischief.

DR. WATSON (Path. to Norristown Insane Asylum):—I use alcohol and use a great deal of it, and am much in favor of it. In blood-poisoning, especially that form which develops from post-mortem infection, it is the best remedy I know, and the only remedy that offers much encouragement for pulling the patient through. The larger the quantity used the more the chance of recovery. I remember one case, a physician, who was covered all over the body with abscesses, hardly one square inch of healthy surface being left, and he recovered under the free administration of alcohol. Without it I do not believe he could have recovered.

DR. PERCY CORSON:—In many cases I have found no satisfactory substitute for alcohol. If ever I have saved human life at all it has been with the use of alcohol. I have used the drug in all kinds of cases, and never remember any instances of acquired taste from medicinal use. Until I find a better substitute I shall continue to use it. I was called to a case of cholera morbus, secondary to a previous acute disorder. The patient was collapsed, almost pulseless and apparently dying. I gave her a third of a glass of good French brandy, repeated the dose in twenty minutes, and again after same interval, thus giving the patient a tumblerful of strong French brandy inside of one hour. I gave one ounce every hour the whole night through. The next day the patient was better. She is living to-day.

DR. GEORGE H. CROTHERS:—I don't think I can reconcile my experience with the broad assertion of the general depressant effect of alcohol. I think I have saved life with its use. In my hospital experience, whiskey was frequently found useful, and the results of its administration everything to be desired. I will cite a case from my own personal experience:

The case was obstetrical, followed by severe hemorrhage; patient faint and pulseless. I sent for whiskey, and as it was some time coming, watched the patient with much anxiety. She was evidently sinking, and the pulse was down to a very low point. I gave 1-30 grain strychnia, hypodermatically, and in fifteen minutes repeated the dose, but could not observe any positive result. It is needless to say that I was much alarmed.

Finally, as the woman was almost gone, the husband returned with the bottle of whiskey, and fell exhausted upon the stairs. I seized the bottle and alternately administered the contents to the dying woman and the exhausted man (the latter, by the way, I omitted to state was in the advanced stages of tuberculosis). The result was even better than that of the neophyte, "who saved the father but lost chiid and mother." My patient revived more speedily with the use of whiskey than with strychnia, and eventually recovered.

I once attended a woman who had suffered for years with sciatica, and to whom I had to give ½ to ¾ gr. morph. sulp. ter in die, in order to give her any relief. She contracted a severe attack of cholera morbus during one of her attacks of sciatica. When I saw her she was cold, collapsed, and almost pulseless, a faint picture of what you may see in the dread cholera Asiatica. She could not retain anything upon her stomach, neither food nor medicine, nor any ordinary stimulant. I ordered a bottle of good champagne, and fed her the whole bottle during the night, giving it in teaspoonful doses with a little ice in the spoon. At 10 A. M. ordered another bottle, and she got one-half of that before night. The patient got well, and I am perfectly certain she would have died without the treatment.

Again: A brother of mine, and a fellow-member of this society, was operated upon some years ago for peri-renal abscess. He was emaciated and in bad shape for operation. The esteemed Dr. Agnew performed the operation, and it was doubtful at one time whether he could be taken off the table alive, so severe was the operation and so reduced was the patient. I sat by his bedside and counted his pulse when it could be counted. The stomach refused everything, and we gave him hypodermatic injections of whiskey every fifteen or twenty minutes. The results after each injection were manifest in the pulse and respiration, and using them for a guide, we continued the treatment until morning, when I gave him a small dose of morphia for its quieting effect. If alcohol had any great depressing effect it would show it in such a case.

DR. ———:—I use alcohol in my practice. Cannot bring myself to believe it is never a stimulant. Have seen it used in blood-poisoning with happiest results. Believe with Dr. Watson that we have an antiseptic effect in those cases. I think probably it is, or has been overdone, but expect to use it some in future.

DR. HUNSBERGER:—Without intending anything personal, I wish to say that I think one can pervert some things to make them tally with preconceived ideas or prejudices. According to Wood's Therapeutics, alcohol is food under certain circumstances and in certain amounts. The teaching that in all cases of typhoid fever we should give alcohol from the start is erroneous.

Another thing I object to in Dr. Wylie's paper is that he does not discriminate between large and small doses. As well might you assert that, because some gluttons have eaten themselves to death, food was therefor injurious. In small amounts, alcohol has been shown to be food, in that it assists in the proper assimilation of food that may be taken. It conserves energy. We ought not to expect too much, or that alcohol will bring down a

temperature of 104°, or 106° to a point of safety.

I do not believe that nine-tenths of the typhoid cases need alcohol. In fifty per cent. of the cases of broncho-pneumonia, except in children, alcohol is not needed. Alcohol should seldom or never be used in chronic diseases. It is no more excusable to advise indiscriminately the use of a half-ounce of whiskey ter in die, then the use of opium or paregoric in similar cases. Hopeless and advanced cases of cancer and tuberculosis are exceptions to this rule.

Another case: I was called in to see a case of diphtheria; the membranes had entirely disappeared and the patient was paralyzed, was in a cold sweat, collapsed, and apparently in extremes. The attendants remarked that he had been in that condition since 2 o'clock the previous day, but they had apparently not realized the gravity of his condition. The pulse was sixteen beats to the minute; skin cold and clammy.

I gave strychnine, 1-30 grain, every hour for four hours, with apparently no result. I then began the administration of brandy, and gave twenty-four ounces in twenty-four hours of the best brandy I could get. A remarkable incident in the exhibition of the drug was, that at no time could I detect any odor of alcohol upon the breath. At this time the pulse had reached thirty-six. I reduced the amount of brandy and continued its use. The pulse never went beyond thirty-six, and when the dose was diminished the pulse was reduced.

I stayed two nights with the patient, and he survived seventy-two hours from time of beginning of paralysis. I think it remarkable that any drug would keep a patient, in such condition, alive for such a length of time.

I suppose that the other side will have the audacity to say that I killed the boy with alcohol, even with the testimony of clinical results opposed to such an assertion. Clinical results speak louder than any fine-spun theory.

DR. WEAVER: I am sorry I cannot take to Dr. Wylie's side. If alcohol had been discovered recently as a therapeutic remedy, it would have been heralded from one end of the universe to the other.

DR. WILMARTH: In answer to Dr. Wylie's query, as to whether the claims of alcohol have been fairly tested by treating similar diseased conditions *without* as well as *with* the drug, I will answer yes. I have tried other methods, and have not found them to answer the test. I find in our hospital that, in cases which are going down hill, alcohol, in the form of milk-punch, increases assimilation and helps to nourish the patient.

I do not think we need to bother ourselves about the possible harm which it is claimed may result from the use of alcohol as a medicine. The public has put its seal of approval upon the indiscriminate use of alcoholic liquors as beverages, and where one patient becomes an alcoholic from medicinal use, tens of thousands become intemperate from public approval. As regards the action of alcohol in shock, we do not always understand how it acts. It may be that shock is due to nervous irritations, which alcohol relieves.

DR. SPIER: We do not know enough about alcohol to be positive in our expressions of its physiological action. I doubt if the isolated experience of a few men is sufficient to overthrow the clinical experience of the great majority of general practitioners; nor do I think the experiments so far performed sufficient to satisfy the average intellect. Until we can prove to our own satisfaction that the leading thinkers and investigators are wrong, we would better follow in their footsteps. There comes a time when we must judge for ourselves. Until we have more definite information, I think we would better use alcohol. We need more mathematical precision in the treatment of diseased conditions. I recall an instance in which a friend of mine was treating a patient for lack of compensation. The patient was naturally solicitous in regard to his condition, and as he was not improving, but rather getting worse, he inquired of the doctor whether he could not do anything more for him. The doctor informed him that he could not; that he was giving him digitalis and that failing, did not know what better he could do. "In that case," said the patient (who, by the way, was a mechanical man), "I guess we might as well give the matter up," and turned over and died.

A good deal of what is said in regard to the evil effects of alcohol used as a beverage may be true, but it is a well-known fact that the English are the finest race on earth and are the hardest drinkers. The Turks, on the contrary, never use alcohol and are one of the meanest. In our own country, the Kentuckians are the strongest physicially and freest from crime, yet Kentucky probably uses more whiskey than any State in the union.

DR. WHITCOMB: Alcohol is useful in treatment of certain phases of disease. It should be used as a drug, not haphazard. Its use in any other way than as a drug to meet certain indications is reprehensible. I oppose the idea that careless prescribing causes intemperance. I do not believe that physicians are generally accountable for such results, and they should not be placed at their door. There may be a few such cases, as there are always irresponsible men in all kinds of business and professions, but the number is small proportionally.

DR. HUNSBERGER: I wish to condemn the introduction in the public schools of treatises (if so they may be called) teaching the effects of alcohol. If there is any way to encourage the use of a dangerous drug, it is by familiarizing the youth with its nature and effects. Young America is curious, and needs only to be told that a thing is dangerous, to

take the first opportunity of experimenting with it.

DR. WILEY: The men whom I have quoted you as condemning the use of alcohol in medicine are the pioneers in the new investigation. The whole question has attained a different aspect from that which it presented ten years ago. These men, by patient and thorough experimentation, have reached these results. Will the future prove them? We should give close attention to the subject, and seek for information in modern literature. Do not go to the text-books for it. The men who have given the most attention to the subject recently are not authors of text-books, and you will not find the results of their investigations in them.

DR. KNIGHT: (Closing). Great care in the use of alcohol should be observed not to bring the system too far above or below par. The majority of literature is on the side of alcohol as a medicine. Ether is also a stimulant, and given hypodermatically, gives greater and more rapid effect than alcohol. I use it a good deal in my practice.

PERISCOPE.

NEWS AND MISCELLANY.

A white tongue indicates febrile disturbance; a brown, moist tongue, indigestion; a brown, dry tongue, depression, blood-poisoning, typhoid fever; a red, moist tongue, inflammatory fever; a red, glazed tongue, general fever, loss of digestion; a tremulous, moist and flabby tongue, feebleness, nervousness; a glazed tongue with blue appearance, tertiary syphilis.—*Medical Age.*

The examination of sputum for the tuberculous bacilli has been attended with some difficulties that Spengler, (*Deutsche Med. Woch.*) thinks may be obviated by following this procedure. Equal parts of sputum and lukewarm alkaline water are thoroughly mixed with from two to fifteen grains of pancreatin, and are allowed to digest at the body temperature for from two to three hours, when a few drops of strong carbolic acid are added to prevent putrefaction. A sediment quickly forms. The supernatant fluid is poured off, fresh alkaline water is added, and a further digestion in the incubator is allowed. The sediment after this second digestion is smaller. It is collected on filter paper, and is examined in the usual way for the bacillus tuberculosis.

By this method the sediment from a day's sputum is so small, as a rule, that a few cover-glass preparations only are needed for its thorough examination. There is no impairment of the staining qualities of the bacilli, and Spengler has found this a very quick and reliable method of examination when the tubercle bacilli are present in small numbers. It is, of course, unnecessary when they are abundant.—*American Journal of the Medical Sciences.*

It is said that perforation of the intestines may be detected if tympanites be present, the respiratory and cardiac sounds becoming audible on pressing the abdomen.

Medical Men to Avoid.

The one who has acute exacerbations of insanity when exposed to any new fad. The one who is always successful with all his difficult operations. The one who always sees hundreds of cases of a rare disease. The one who can always match your case and improve on your treatment. The one who always finds you have omitted something in the examination of your case. The one who thinks he can talk well and is always ready to discuss any paper of the evening. The one who is always the first to do the new operation. The one who is in a chronic fear of being anticipated in his important discoveries. The one who in consultation feels it is his conscientious duty to explain to the patient why he differs from the attending physician.—*Canada Lancet.*

The part played by micro-organisms in digestion has been investigated by Nencki during the past ten years (*British Medical Journal.*) He has come to the conclusion that they possess the property of changing the insoluble forms of carbohydrates and albumen into a soluble form. As regards the question whether the action of micro-organisms is necessary for the normal process of digestion, Nencki endeavors to prove that it is not. The grounds upon which he bases this conclusion are as follows: (1) The acid of the stomach destroys the majority of the micro-organisms; only a small number escape this fate, and get with the food into the intestinal tract. In the small intestines their action is confined to the decomposition of the carbohydrates and the formation of lactic and succinic acid, alcohols, etc. The decomposition of albumens and the formation of the aromatic bodies, such as phenol, cresol, indol, scatol, and of the different acids under their influence, takes place only in the large intestine. Experience shows—the author mentions one case of his own observation and one of Zanowsky of Warsaw—that one can live very long without the large intestine, if there is an artificial anus near the ileo-cæcal valve. (2) Newborn guinea-pigs were put into a closed bell and kept on a sterilized milk diet, the respiratory air being also sterilized. After a time the animals were killed, and all the organs were found to be quite normal. Microscopical investigations of the intestinal tract failed to show the presence of any micro-organisms.

The time will come, says the author, when we shall be able to remove micro-organisms entirely from our food, but at present we can only say that they are only hurtful, and not in any way beneficial.

MEDICINE.

Formulæ.

To stimulate chronic eczema:

℞

Picis liquid	ʒi.
Glycerin	ʒi.
Spts. vin. rectif.	ʒvi.
Ol. amygd. amar.	mxv.

M. Sig.: For external use.—*Duhring.*

Or,

℞

Ol. rusci (vel picis liquid)	ʒiv.
Adipis	ʒi.
Ol. olivæ	ʒss.

Misce et adde:

Terebinth. canadens	
Sulphur. flor., aa	ʒi.

Sig.: To be applied two or three times daily with a brush.

Another is:

℞

Picis liquid	ʒi to ʒii.
Sapon. virid.	ʒi to ʒiij.
Glycerin	ʒi.
Spts. vin. rect.	ʒviij.
Ol. rosmarin.	ʒss.

M. Sig.: To be rubbed into the skin with a flannel rag.

For lumbago:

℞

Sodii salicylate	ʒss.
Potassii iodid	ʒij.
Comp. syr. sarsap.	℥jss.
Water, q.s.	ʒiij.

M. Sig.: A teaspoonful in water thrice daily, after meals.—*Dr. S. Solis-Cohen.*

For peritonitis:

℞

Hydrarg. chlor. mite	gr. vi.
Pulv. ipecac	gr. vi.
Potass. nitrat	ʒjss.

M. et div. in chart. No. 12. Sig.: One every three hours.

For hay fever:

℞

Pulv. menthol	gr. ii.
Bismuth subcarb.	ʒi.
Pulv. sacchari alb	ʒjss.
Pulv. camphoræ	gr. ii.

Mix thoroughly. Sig.: Use as a snuff several times a day.

For chronic rheumatism:

℞

Pulv. Rhei	ʒiv.
Pulv. gum guaiac	ʒi.
Sulphur sublimat	ʒi.
Potassii bitartrat	ʒii.

Mix well and add:

Mellis	℥j.

Sig.: One to two tablespoonfuls in a half tumbler of hot apple cider on arising and retiring.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2055. SATURDAY, JULY 25, 1896. VOL. LXXV—No. 4

ORIGINAL ARTICLES.

CASES OF ARTIFICIAL ANUS AND FECAL FISTULA TREATED BY INTRAPERITONEAL OPERATION.*

JOHN B. ROBERTS, M.D., PHILADELPHIA.

INTESTINAL RESECTION FOR THE CURE OF ARTIFICIAL ANUS MADE FOR THE RELIEF OF INTERNAL STRANGULATION FOLLOWING HERNIOTOMY FOR STRANGULATED HERNIA; RECOVERY.

A man aged sixty-seven years was admitted to the Methodist Hospital on November 21, 1895, with strangulated inguinal hernia of the right side. He had suffered with this hernia for about forty years, and it had previously been operated upon twice because of the occurence of strangulation. Upon examination it was found that there was a small hernia on the left side and a large inguino-scrotal hernia of the right side which was strangulated. I promptly cut down upon the hernia, relieved the strangulation and did an operation for the radical cure by the method of Bassini. The hernia consisted of the entire cecum, which showed a dimple-like depression at one point, evidently representing the appendix, which was congenitally absent. Subsequent inquiry of the surgeons who had operated upon the man previously proved that his appendix had never been removed, and that his case was therefore one of congenital absence of the organ. There were a good many old adhesions uniting the coils of intestine in the neighborhood of the cecum.

The patient showed very little shock after the operation, and did well for one day, when his abdomen became somewhat tympanitic and painful. The next day the pain and tympanites had increased, and vomiting occurred when attempts were made to have his bowels moved by sodium phosphate. I determined to make an incision in the median line, because it was evident that there was an obstruction in the intestinal canal.

Active peritonitis was present and a portion of the small intestine just above the ileo-cecal valve was found to be dark in color, as if it had just been relieved of some encircling constriction. It was evident that this portion of the intestine, about two inches long, had been strangulated by being entangled in some of the twisted masses of adherent intestine resulting from the previous attacks of inflammation. This bowel was so dark, and the activity of the peritoneal inflamma-

*Read before the Philadelphia County Medical Society, March 25, 1896.

tion so great, that I made an incision into the gut and allowed a quantity of feces and gas to be expelled. Being afraid to put this dark and gangrenous-looking bowel back into the abdomen, I stitched the knuckle of intestine to the center of the incision. The opening through which I had permitted the evacuation of feces and gas was closed with a hemostatic forceps, and the wound above and below the protruding bowel closed with sutures. Before doing this I also punctured the intestines within the abdomen in another place with the aspirating needle, to allow the escape of gas, and closed the opening with sutures.

After the intestine had been stitched to the abdominal wall I found that it had regained its normal color. This showed that it is probable that the gut would not have become gangrenous at this point and could have been returned, though it is questionable whether such a proceeding would have been wise when the distention and the violence of the peritoneal inflammation were so great.

Inflammation of the belly-wall around the protruding knuckle of bowel took place and an abscess formed in connection with some of the stitches. After the tympanites and active signs of intra-abdominal inflammation had subsided, I endeavored to close with sutures the opening which had been made in the protruding portion of the bowel. Two attempts were made to do this, but both of them failed, because gas and feces forced their way through the opening, notwithstanding the presence of the sutures applied after the method of Lembert. The final result, therefore, was the production of an artificial anus in the intestine left stitched in the incision.

The anterior surface of the abdomen became the seat of a very painful and extensive eczema which caused the patient much pain, and gave us a great deal of annoyance. On January 11, 1896, I operated for the cure of artificial anus, although I thought the operation was likely to be much complicated by the difficulty of preventing infection from the eczematous skin.

An incision was made above and below the opening in the bowel; this was then detached from the abdominal wall and the adhesions of the neighboring portions of intestine separated. During this stage of the operation my finger tore the bowel just above the artificial anus. Four inches of gut which included this tear and the abnormal anus were then resected and a circular suture of the intestine made with two rows of Lembert sutures of silk. No portion of the mesentery was removed, but the portion corresponding to the removed bowel was folded. A drainage-tube was introduced because of the probability of infection, and the wound closed. The subsequent history of the case was unimportant, though there was some suppuration about the stitches, one or two of which were subjected to great tension because of the retraction of the belly-wall at the seat of the artificial anus. The patient recovered without special symptoms worthy of record.

TWO CASES OF FECAL FISTULA, RESULTING FROM SLOUGHING HERNIA, CURED BY CELIOTOMY AND INTESTINAL SUTURE.

A woman, over sixty years of age, had been operated upon several years previously for strangulated femoral hernia on the right side. On examination at the Woman's Hospital I found a minute orifice in the right groin, from which a small amount of liquid feces escaped more or less continuously. The tissues around were irritated by the escaping fluid. The opening would only admit the end of a probe. I therefore concluded to attempt closure by making an elliptical incision around it, dissecting out the tissue at the edges and suturing the wound left by this procedure. After making the elliptical incision, the wound and fascia were dissected up, the mucous membrane lining the small opening in the intestine turned inwards and catgut sutures applied in such a way as to close the intestinal orifice. The edges of the integument were brought together by interrupted sutures of silk, and an occlusive dressing of iodoform and collodion was then applied.

The operation, however, was unsuccessful, and fecal matter soon began to ooze through the wound, which failed to unite. The patient became very much discouraged and had rather serious symptoms a couple of weeks after the operation from partial suppression

of urine. This condition, however, had no relation to the operation. After getting her kidneys to act more satisfactorily, I, on November 15, 1895, four weeks after the operation just described, made a four-inch incision in the median line of the abdomen, between the pubes and the umbilicus, and elevated the pelvis so as to throw the intestines upwards toward the diaphragm. A loop of small intestines was found adherent to the edges of the internal femoral ring. The external opening, through which feces had been escaping, communicated with the interior of this loop of bowel. A piece of gauze was carried beneath the adherent coil, and the rest of the intestines protected as much as possible by pads of gauze. I carefully separated the bowel from the abdominal wall around the margin of the ring, and drew it out of the incision. A double row of Lembert's sutures of silk were used to close the opening in the detached bowel. The line of suturing was made transverse to the long diameter of the gut in order to make as little constriction at that point as possible. The fistulous opening was then cut out by transfixing the abdominal wall, after thorough cleansing of the excoriated surface of skin around the site of the fistula. Catgut sutures were passed through the abdominal wall to close the opening, and the peritoneal surfaces beneath were drawn together by catgut sutures introduced from within the abdomen. The abdominal incision was then closed in the ordinary way with silk sutures. The convalescence was uninterrupted. The beneficial moral effect of the operation upon the patient was very marked.

I had first intended to operate by the intra-abdominal route, when the woman first came under my care, but was led to do the less serious operation by the exceedingly small orifice through which the contents of the bowel escaped.

A year and a half ago I operated upon a similar case in a feeble, old woman, of sixty-four, who had had for about two years an artificial anus in the left groin, due to a sloughing femoral hernia. An unsuccessful attempt to close this fistula had been made, it was said, at the Presbyterian Hospital, about fifteen months before I saw her at the Jewish Hospital. Fecal discharges occurred in small quantities almost constantly, and the woman seemed greatly depressed by their occurrence. Her age and feebleness made me hesitate for a long time to operate upon her. In October, 1894, however, I finally concluded that the risk was justifiable. The case was not one suitable for using the Dupuytren enterotome, as there seemed to be no special spur to be divided. A median incision was made and the patient put in the Trendelenburg position. The attachment of the bowel to the abdominal wall was much more extensive in this case than in the other. The fecal fistula was really sufficiently large to be called an artificial anus, for nearly all the contents of the bowel escaped here. This was quite different from the condition of the other patient, in whom nearly all the alvine evacuations passed through the normal route. In both instances an effort was made to prevent contamination of the operative wound by the discharges coming from the fistula. In the present case, I sewed the cutaneous margins of the fistula together over the orifice before making the median incision. The gut, where attached to the abdominal wall, was encircled by a ligature, which was drawn sufficiently tight to prevent the escape of feces into the abdomen when I detached the intestine from the neighborhood of the femoral ring. This was done because the opening was a large one, and I feared fecal material would pour out into the peritoneal cavity. After the bowel was cut loose with the scissors, intestinal sutures were applied, so as to close the opening in a transverse direction. The bowel was then dropped into the abdominal cavity. This step of the operation left an opening in the anterior abdominal wall at the site of the femoral canal lined with mucous membrane, which had been left by cutting away the attached intestine on the inner side. The woman's condition was rather bad, and I therefore did not dissect out all this tissue and bring the raw surfaces in contact as in the first case. Some of the mucous membrane, however, was dissected away. The rest was allowed to remain and the opening closed spontaneously

by Nature's efforts. This portion of the operation I considered unsatisfac tory, because of the prolongation of convalescence. It would have been better if I had encircled the opening with an incision through the entire abdominal wall and brought the parts together, so as to get primary union. This is easily done when the abdominal cavity is open, because the surgeon has access to both sides of the orifice. In the other case this method was used satisfactorily. With a sponge pushed up against the internal orifice I was able to prevent wounding of the intestine when the knife was entered from the external surface, and also avoided contaminating the peritoneal cavity by secretions from the inflamed skin around the old artificial anus.

AN UNUSUAL ALVEOLAR ABSCESS, WITH ANTRAL COMPLICATIONS.*

DR. G. HUDSON MAKUEN, M. D., PHILADELPHIA, PA.

So far as I know, this case presents several unique features. The patient, a male, aged forty years, first consulted me with reference to a dull aching and somewhat indefinable pain in the gum covering the buccal surface of the first molar tooth of the upper jaw on the left side. The teeth were in fairly good condition, with the exception of some retraction of the gums in both upper and lower jaws. Further than this I could detect only a slight redness over the seat of pain.

I at once referred him to a dental surgeon of considerable repute, whose diagnosis was guarded and his treatment soothing and mildly counter-irritant. About a week elapsed, when to our surprise there appeared from under the gum along the tooth and between it and its fellow, the first molar, a slight discharge of thin pus. We then thought that we were dealing with a diseased pulp at the apex of the root, and the tooth was opened and the pulp found to be perfectly healthy. It appeared that we had an abscess entirely external to the tooth-substance and probably situated at or near the bifurcation of its roots. The discharge increased and we decided to drill through the crown of the tooth and try to drain and treat the abscess through this opening; but we failed to find the pus-sac.

The dental surgeon seemed entirely at a loss to explain the cause or the exact seat of the trouble, and upon exploring with a delicate probe one day this passed into the antral cavity at the point where the external wall of the antrum joins the alveolar process. He assured me that no force was used, but the patient complained of very severe pain. From this time the inflammation rapidly extended into the antrum and within three days we had to deal with an acute inflammatory condition of the maxillary sinus and the left nasal cavity and post-nasal space. Fortunately the ostium maxillare was patent, and the discharge, which was of a muco-purulent character, and very profuse, oozed freely through the nose both anteriorly and posteriorly. During this time the antrum was syringed through the alveolar opening. I advised the immediate removal of the tooth, but my consultant, thinking that the cause of the trouble was external to the tooth and independent of it, persuaded me to wait a few days longer, to continue to favor drainage and to use the usual stimulating and antiseptic lotions. But on the second day thereafter the inflammation became so severe and the discharge from the nose increased so enormously that I insisted upon the removal of the tooth. This had to be done with great care, for the bone-substance entering into the formation of the alveolar process and the external wall of the antrum was very delicate and thin and the roots of the tooth were large.

The tooth was removed, however, without accident and there was found

* Read before the Philadelphia County Medical Society March 25, 1896.

to be a small pus-sac in the peridentium of the inner margin of the anterior buccal root about midway between its apex and its base. The sac was so small that I was slow to believe at first that it could be the sole cause of the disturbance; but the tooth itself was, as I have said, living and perfectly healthy in all its parts, with the exception of this small spot on its covering membrane, and after the most careful examination of the alveolar cavity we could find no disease whatsoever. In still further proof of the fact that the cause originated at this spot there was no further discharge from the cavity, and within three days the antral inflammation subsided and the patient was practically well.

To my mind this case presents at least two very interesting features. First, the origin of the trouble: A pus-sac forms in the covering membrane of a tooth of a perfectly healthy man at a point considerably removed from all external influences. What was the cause of this formation? How did it get there? Second, the rapid development of the antral complications as soon as communication was made between the antrum and the alveolar abscess; and notwithstanding the general inflammatory condition of the antrum and the copious discharge, there was no pain whatever, the only symptom being that referred to the nose and the opaque condition found with the electric light transmitted through the maxillary bones.

A CASE OF ACUTE LOSS OF VISION FROM DISEASE OF THE ETHMOID AND SPHENOID CAVITIES.*

HOWARD F. HANSELL, M.D.,† PHILADELPHIA.

R. D., aged seventeen years, awoke on the morning of February 13, 1896 with severe headache, located mainly in the frontal region, and almost absolute loss of vision. He had gone to bed the night before in his usual health, free from any disturbance of sight. In the early part of January he had a well-marked but uncomplicated attack of measles, which ran the usual course. Two weeks later he had entirely recovered, and resumed his occupation as driver and stable-boy. One night, being very tired, he threw himself on the floor behind the stove in the kitchen, and slept there till morning. On February 19th, he was brought to the Polyclinic Hospital by Dr. H. M. Beatty, of Trenton, N. J. During the week that intervened between the onset of the attack and his visit to the hospital, his vision had grown worse and his mental powers had become slightly dulled, but he no longer suffered from the excruciating headache that had tormented him for four days. Upon examination the following ocular conditions were noted: The lids and conjunctivæ were normal, the corneæ and anterior chambers clear, and the latter of normal depth; the irides were moderately dilated, and absolutely unresponsive to light; the lenses were clear; the vitreous chambers were clouded by a great quantity of minute opacities (punctate hyalitis); the fundus of each eye was dimly seen, but its condition could be determined with moderate accuracy; the optic discs were pale; the arteries slightly contracted, and the veins normal in caliber; the edges of the disc were not obscured by other exudation than that in the vitreous; there was no optic neuritis or choking of the disc; each retina was edematous and toward the periphery a few grayish, curved lines, marking linear detachments of the retina from the choroid, were visible in the lower parts. Vision was reduced to the perception of light in the extreme temporal parts of the field. The boy

* Read before the Philadelphia County Medical Society, March 25, 1896.

† Professor of Diseases of the Eye in the Philadelphia Polyclinic; Clinical Professor of Ophthalmology in Jefferson Medical College, etc.

was emotional, easily excited and of slow mentality. Upon admission his temperature was 99°, the respirations, 24; the pulse, 104, full and strong. There was no pain in the eyes or head. The urine was free from sugar and albumin; its specific gravity was 1022. The patient was bled from the arm, about seven ounces of blood being removed; elaterin, one-quarter grain, was administered, and he was given a hypodermic injection of pilocarpin, one-quarter grain and a hot bath. On the following day the pulse had fallen to 56, and was weak and compressible and occasionally intermittent; the temperature and the respirations were normal; intellection was more active. In the absence of an assignable cause for the ocular and cerebral edema, the boy was referred to Dr. Walter J. Freeman for examination of the cavities of his head. Dr. Freeman's report is as follows: The view of the interior of the nose was completely obstructed anteriorly by immensely swollen turbinals, but posteriorly muco-pus in considerable quantity was seen flowing from the choanæ.

Thorough cocainization produced contraction of the congested intra-nasal tissues, and the fossæ soon became filled with thick purulent secretion, which came from both the superior and the middle meatus, right and left, and from the upper back part of the left fossæ. Transillumination of the maxillary and frontal sinuses, together with the absence of the other symptoms of any disease of these cavities, pointed clearly to a diagnosis of acute purulent inflammation of the anterior and posterior ethmoid cells on both sides and of the left sphenoid sinus. The ethmoid arteries, branches of the internal carotid, through the ophthalmic, and the return veins which empty into the cavernous sinus, bring the affected cells into most intimate connection with the circulation about the optic chiasm. Then, too, the inflammation of the sphenoid sinus could readily act injuriously directly upon the chiasm, which immediately overlies it, and from which it is separated by a very thin plate of bone. Atropin internally, together with appropriate local treatment of the intra-nasal congestion, quickly caused the inflammation to subside, and in about ten days the nasal condition was normal, and there was no return of the inflammation of the sinuses.

Dr. S. D. Risley met me in consultation and confirmed the ocular findings already recorded. Dr. Risley hesitated to attribute the blindness to the ethmoiditis and considered the possibility of a common cause. Dr. G. E. de Schweinitz also examined the case, and his report was in accordance with my own findings; he made a diagnosis of acute double retro-bulbar neuritis from ethmoditis. During the succeeding days the general condition improved, the nasal inflammation was reduced by the treatment carried out by Dr. Freeman, and the vitreous opacities cleared so that the details of the fundus could be examined accurately. The edema of the retina grew less and less; the linear detachments disappeared, but the vessels, both arteries and veins, became smaller and the neves paler; the outlines of the disc were clear, showing no exudation about the nerve-head. Day by day the ethmoiditis improved, until pus could be no longer seen coming from the ethmoid cells; the discharge from the sphenoid was the last to disappear. The cure of the ethmoid and sphenoid disease was not followed by recovery of vision, although the fields have gradually enlarged and now include the unbroken periphery, in which light-projection has returned, and fingers can be counted on the temporal sides, but a large central scotoma, in which light cannot be seen, persists. The pupils have become responsive to light, but are abnormally dilated; the arteries of the nerve and retina are almost thread-like, and the veins but little larger; whitish points, some glistening and some dull, and punctate disturbances of the pigment-layer can be detected throughout the retina.

In consultation with Drs. Charles K. Mills and W. W. Keen it was decided that there were no indications for operation on the skull.

No symptoms other than those described, namely, pertaining to the eye and the nasal cavities, were elicited after careful scrutiny. We must depend, then, on the ocular and nasal examinations to determine the source of the blindness. Unfortunately our conception of the pro-

cesses that have caused such sad havoc are largely speculative. We know from Dr. Freeman's report that a purulent inflammation of the ethmoid and sphenoid cells existed, but we can only conjecture the relation of this to the blindness. As will be seen from Kuhnt's monograph,[1] similar effects have been observed in the course of disease of the frontal and ethmoid sinuses. Alt reports a case[2] of optic neuritis caused by cauterization of the turbinated bones, which rapidly grew better when the nasal treatment was discontinued. In analyzing the various ocular findings we shall consider them in detail:

1st. Punctate hyalitis, or the collection in the vitreous body of minute dust-like opacities, moving in waves with every movement of the ball, and obscuring, to a considerable extent, the ophthalmoscopic view of the fundus. There was no appreciable difference in the amount of these opacities in the two eyes. While their exact source and nature are unknown, it is probable that they are the products of an exudation from the choroid in the neighborhood anterior to the ora serrata, where the choroid is uncovered by the retinal tissue. Their presence is reasonably accounted for by the supposition that, owing to a sudden increase of tension of the choroidal vessels, either from contraction of the walls of the vessels, or from increase of their contents by stimulation of the sympathetic plexus on the aorta or cavernous sinus, the fluid contents of the blood exuded in part into the vitreous body. Apparently opposed to this hypothesis is the fact that the intraocular tension was not increased; indeed it was slightly below the normal. There was, however, no damming up of the excretion through Schlemm's canal in the periphery of the cornea or disturbance in the flow of lymph from the vitreous into the anterior chamber, and hence no cause for increased tension. The excretion through the cornea was probably on the other hand hastened, as evidenced by the slight reduction of intraocular tension.

2d. The retinal edema was universal and more pronounced near the periphery, where the fluid had collected in curved lines in sufficient amount to separate the retina from the choroid. The arteries were contracted and the veins of normal caliber. The discs were well outlined and not more blurred on the edges than the retina in other portions of the fundus. The retina had lost its transparency, was gray in color and seemingly saturated with serum. There were no pigment-alterations or hemorrhagic spots, nor did the foveal region differ in color from that of the adjoining parts. This fluid exudation had one of two sources, namely, from the vessels of the retina, or from those of the choroid, or indeed from both. I am inclined to believe that it was derived in great part from the former, the circulation in which was indirectly reduced by interference with that of the venæ vorticosæ, thus cutting off the anastomosis between the choroid and the retina at the foramen sclera. In addition, the current of blood in the central vein of the retina was probably impeded in its course by an obstruction or diminution of caliber, either in the ophthalmic vein or in the cavernous sinus. As opposed to this view of venous obstruction we must remember important symptoms that were conspicuously absent, namely, choking of the discs, tortuosity of the veins of the retina, and choroidal or retinal hemorrhages. These conditions would undoubtedly have been observed if thrombosis of the choroidal veins or of the ophthalmic vein had been present. We are therefore forced to exclude this possible explanation of ocular complications in ethmoidal disease in our case.

3d. *Loss of Vision.*—There was sudden and absolute loss of light-perception on the temporal half of each retina and preservation of light-projection on the extreme temporal side of each field, or partial functioning of the nasal half or section of the retina, an indistinctly marked bi-nasal hemianopsia. The line of division between the perceptive and non-perceptive sections was not clearly made out. It was determined that central vision was lost in both eyes. In the left, the line of demarcation corresponded to a curved line from above-inward to down-outwards, with its concavity toward the nose. In the right, light-perception was retained only on

[1] Ueber die Enzundlichen Erkrankungen der Stirnhohlen, etc., 1895.

[2] *American Journal of Ophthalmology*, September, 1895.

the extreme nasal portion of the retina, and lost in the macular and all other portions. If we accept the hypothesis of a single lesion we must exclude purely local disturbances, such as thrombosis, embolism or orbital inflammation and refer the active agent back to the chiasm. This solution is the only tenable one. There was undoubtedly inhibition of function of the optic tract, complete for those fibres supplying the nasal half of the retina and partial for those running to the temporal—probably from pressure of the edema on, and edematous infiltration of, the chiasm and nerve-trunks. Direct and active pressure of a new and unyielding growth would have induced serous infiltration of the sheaths and choking of the discs, rather than limitation of the circulation by encroachment on all the vessels by fluid exudation. This hypothesis is again opposed by the diminution in size of the veins of the nerve and retina. We should naturally expect, whatever may be the cause of venous obstruction, whether direct pressure at one point or along the course of the veins, dilatation, tortuosity and rupture of the retinal or choroidal veins—an obstacle that requires considerable speculative ability to overcome, as it seems to invalidate any explanation that has been offered. Kuhnt suggests that acute loss of vision in these cases is to be attributed to thrombosis of the central vein. When the blindness is bilateral the thrombosis must be double or must be situated in some intracranial sinus.

In considering the pathology we must remember that the symptoms common to ocular involvement in disease of the nasal cavities were in large part absent. For instance, there was no edema of the lids, no chemosis of conjunctivæ, no injection of the balls, no exophthalmos, no limitation of movement, no inflammation of the orbital tissues, no hemorrhages. The only symptoms presented by our case were pain in the head, not localized, edema of the vitreous and retina, contraction of the retinal vessels, imperfectly marked bi-nasal hemianopsia, and unresponsive dilated pupils and mental dulness. Later, there were absorption of the vitreous opacities; disappearance of the retinal edema; numerous scattered patches of retinal degeneration; restoration of light-perception and light-projection to all parts of the retina, with the exception of that supplied by the macular fibers; central scotoma; return of pupillary action; and recovery of former mentality. The heart and lungs were normal and there were no signs of kidney-disease (report of Dr. Mays), and no elevation, but a slight depression of temperature.

The most reasonable and least unsatisfactory explanation of the ocular complication is that of a localized meningitis, attended with marked swellings and edema of the periosteum, covering the body of the sphenoid bone induced by purulent disease of its cells, through contiguity of tissue. The optic chiasm was directly attacked by the swelling of its supporting structure. The cavernous sinuses were encroached upon, and the function of the sympathetic plexuses of these sinuses was altered, probably stimulated, with resulting contraction of the coats of the neighboring blood-vessels, through the action of branches given off by the carotid and cavernous plexuses to the ophthalmic, and, perhaps, to the Gasserian ganglia.

In the January number of the English edition of the *Annales d'Oculistique* appears an article by Pergens on "Amblyopia and Amaurosis after Hematemesis." The symptoms and ophthalmoscopic signs in some of the cases recorded closely resemble those of my case. The blindness, edema and optic-nerve atrophy are explained by post-mortem findings of endarteritis and spasmodic contraction of the blood vessels of the optic nerve, retina and choroid.

In Kuhnt's monograph will be found references to the principal publications on the relation of disease of the nasal cavities to diseases of the eye. This writer bases the connection on the anatomic relations of the veins of the nasal cavities to those of the orbit. The orbit is surrounded on three sides by cavities lined with mucous membrane, the veins from which, namely, the supra-orbital, frontal, ethmoid, ophthalmo-facial, empty directly into the ophthalmic vein. Therefore, every considerable swelling and hyperemia of the whole or part of the mucous membrane causes a stasis or hyperemia at the origin of the ophthalmic vein, with consequences modified by

individual peculiarities. He considers the absorption of chemically decomposed pus into the system as a chief factor in inducing all the functional disturbances; in other words, a common cause for the suspension of function of the muscular, refractive and nervous apparatus of the eye.

It is to be regretted that this communication is limited to a recital of the clinical features of the case and to a speculative consideration of the pathologic changes that have produced the disastrous effects on vision. The acute atrophy of both optic nerves is probably a permanent one. Notwithstanding the efficient nasal treatment, improvement of vision has been disproportionately slight. Day by day the arteries and veins of the retinæ have become more and more contracted until they can scarcely be recognized as blood-vessels; the discs have become paler and more atrophic and the retinæ degenerated, until normal structure has almost disappeared; yet the case is one of deep interest because of its rarity and because it illustrates the intimate and fatal causal connection between nasal and ocular disease.

REPORT OF A CASE OF CHOLELITHIASIS.*

T. R. MOSS, M.D., DYERSBURG, TENN.

My reason for presenting this report is the obscurity which enveloped the diagnosis, as well as the long train of unpleasant symptoms in its history. The case in question was that of Mrs. J. M. B., aged forty-one, weight 230 pounds, living in conditions of comfort and ease. She was troubled with constipation, but aside from this her health had always been perfect, except about eighteen months previous she had an attack lasting ten or twelve days, with symptoms the history of which resembled biliary obstruction. She lived luxuriantly, and on May 24, 1895, ate quite heartily of the mid day meal; among other things she partook freely of cold-slaw. Two hours after she was seized with an intense pain in the epigastro-hypochondriac region, extending back under the right scapula, from which she was not entirely free for several months. The pain did not continue severe all the time, but there was a constant burning as if a coal of fire had gotten in the stomach, which was very much intensified on taking food or drink of any description. This burning and pain was accompanied with vomiting, severe and persistent, made worse by irritation from ingesta, but coming at intervals when nothing at all was swallowed. It consisted mainly of acid, glairy mucus, in which at long intervals were intermingled minute specks of blood. Dr. N. S. Walker, who had charge of the case, stated that prior to my first visit no elevation of temperature had been observed, and on this occasion the mercury registered only 99½° F. Examination revealed a very tender and painful point on pressure, just below and a little to the right of the ensiform cartilage. No tumor could be detected. The pain, tenderness and persistent vomiting suggested the possibility of gastritis, which Dr. Walker already had under consideration. Jaundice was present, but not nearly so marked as it became later on. The temperature began to range higher, the pain and vomiting persisted, no kind of treatment seeming to give even temporary relief. In the course of a few days Dr. Sales, of Memphis, was called, and after a very careful examination gave as a diagnosis hepatitis. By this time the jaundice was more marked, and deep palpation indicated engorgement and sensitiveness to pressure in the liver. While Dr. Sales favored the idea of hepatitis, which might become suppurative, yet he related an instance where a patient, without symptoms to

*Read at meeting of Tennessee State Medical Society, April, 1896.

particularly indicate such result, had developed malignant disease.

The symptoms continued without abatement, rigors occurring, but no sweating, except that which came as the result of antipyretics. A few days after Dr. Sales' visit he was communicated with by telephone, when he advised aspirating the liver for pus. His presence was desired, but he could not come. The persistency of the pain in the same locality, the obstinate vomiting, the rapidly-increasing jaundice, the conjunctiva, skin and urine clearly indicating the presence of bile in abundance, the rigors and absence of bile in feces, connected with the sudden onset, suggested to Dr. Walker and myself the possibility of biliary obstruction. Therefore, on the morning of June 13th, we administered six ounces of olive oil, and in the afternoon, June 14th, there were several alvine evacuations heavily charged with bile. We regret that the discharges were thrown away before a search by straining was made for calculi. The diagnosis still being unsettled, Dr. A. B. Halder, of Memphis, came up on the morning of the 15th, and, after a most thorough and critical examination, advised an exploratory operation for the purpose of ascertaining the cause of trouble. Accordingly, preparations were made for an immediate operation. An incision was made over the region of the gall-bladder, and the organ partially exposed. It was found adherent to the surrounding parts, and could not be brought well up into the wound. It was contracted and, to my touch, of semi-solid consistency, this semi-solidity, in Dr. Halder's opinion, amounting to a "stony hardness." The contracted condition of the gall-bladder, the "stony hardness," its fixedness and the apparent absence within its cavity or in the ducts of calculi, seemed to preclude the advisability of further operative interference. After palpation and inspection, and as a matter of precaution, introducing an aspirator with negative result, the liver was thought to be normal, and therefore hepatic abscess eliminated. Considering the trouble irremediable and most probably malignant, Dr. Halder so announced, and proceeded to close the opening. The patient bore the operation splendidly and reacted well. There was at once a decided amelioration in the symptoms, the temperature ranging below 100° F., the pain not so severe, the vomiting more infrequent, the dejecta continuing to show the presence of bile, the urine rapidly losing its saffron hue and the skin and conjunctiva gradually assuming their normal appearance. At the time it was difficult to divine whether the change was due to the olive oil on the 13th, followed by bilious discharges on the 14th, or to the operation on the 15th, with the manipulations necessary to the same. Competent observers say that aspiration of the liver, though no pus be found, is often followed by improvement, hence this might be the reason. On the other hand, occasionally calculi are entirely liquefied, and not discovered with the most careful search. The latter seemed most plausible.

After several backsets, attended with high fever, in which quinine was freely and effectively used, she finally became able to sit up a short time each day, but with a great deal of distress, as the nausea was very much increased and a "stuffed feeling" and sense of heavy weight was much more pronounced on assuming the erect position. On the 28th she ate a small amount at the midday meal. During the afternoon the pain returned, but radiated in every direction, so that it was mistaken for ordinary colic, and a simple remedy was administered. It failed to give relief, and as the pain grew more intense an opiate by hypodermatic injection was resorted to. On the morning of the 29th a rigor occurred and the temperature ran to 102°; later in the day another rigor, the temperature rising to nearly 105°. The urine became loaded with bile, the conjunctiva and skin rapidly assumed a deep yellow, the lips and finger-tips were cyanotic, the facial expression pinched and the pulse 130. Dr. Walker was sick, and I, left alone, gave antipyretics with baths, and immediately began the rectal administration of quinine, 100 grains in twenty-four hours. This was continued for several days. In this way the temperature could be somewhat controlled. On lessening the amount of quinine the temperature would rapidly increase, and upon its re-

sumption would again subside; hence, this heroic dosing was justified.

On the morning of August 30th I gave six ounces of olive oil by the stomach, which was retained, and in the afternoon of the 31st she passed a gall-stone about the color and size of a hazel-nut, causing a temporary change for the better. But the vomiting persisted, and it seemed impossible to suggest a form of nourishment which could be retained. To this was added an aching in the limbs, most prominently the left arm and leg, with a burning in the bottoms of the feet. These symptoms, with the extreme hot weather, conspired to make the patient devoutly wish for death. Later on the pain grew more intense, the stomach became, if possible, more irritable, the vomiting of glairy mucus more frequent, and the skin, urine and eyes indicated a resaturation of the blood with bile. The bowels being constipated, I administered a c.c. pill, and the next afternoon was rewarded by finding a second stone larger than the first. During the interval between the passage of these stones quite a considerable quantity of inspissated bile was voided. From the passage of the last stone the improvement was slow, but continuous, until the feeling of fullness, pain and discomfort had entirely disappeared, and she could eat anything she desired with impunity. The skin and eyes cleared and flesh began rapidly to accumulate.

The suffering in the limbs did not cease entirely, but with this exception health seemed about restored, when on March 18, 1896, she was again seized with pain and burning, exactly as before, with a temperature of 103°, but no vomiting. Jaundice made its appearance in twelve or eighteen hours, and every symptom pointed to a return of the original malady. Eight ounces of olive oil were given within a few hours, and this was followed by a whitish, pasty stool the next day. Several ineffectual efforts, as evidenced by pain, were made for the stone to be forced through the duct. Full doses of calomel, followed by salines, phosphate of sodium, and c.c. pills were tried, but the feces continued to show an absence of bile. Evidently the cessation of each paroxysm was caused by the stone slipping back into the gall-bladder, as the burning and most of the tenderness disappeared with the pain. The attacks came from two to four hours after the midday meal, when more food was taken, and hence a greater demand for bile to aid in its digestion. The tertian of intermittency which the paroxysms assumed excited the suspicion that in some way a malarial element was cutting a figure in the causation; therefore, I saturated the system with quinine, and on the night of the 28th, gave two c.c. pills. On the morning of the 29th a third stone was found, similar in color and size to the others. Because of its effect on the catarrhal swelling, as well as a relaxation of the duct-walls, I suspect the quinine was an important factor in aiding the expulsion of the stone. At the time of this writing the patient is again rapidly convalescing.

You can readily see the diagnosis in this case was not easily settled, and because of this the interest became very intense to those directly concerned. The history of perfect health, with the exception mentioned, the free indulgence of cold-slaw and the sudden onset of pain a short while after, the vomiting and burning so severe and persistent that an ice-bag was kept over the epigastrium constantly for three weeks, the foul breath, the rapid small pulse, heretofore not mentioned, pointed with so much positiveness to gastritis that it was perfectly natural this should be considered. There can be no doubt about the presence of an acute gastro-duodenal catarrh, resulting from the irritation to surrounding parts of the impacted gall-stone. This catarrh came near costing our patient her life through its interference with the nutritive process. Hepatic abscess frequently forms in such an insidious manner as to deceive the very elect. I remember a case occurring in Bellevue Hospital, under the service of E. G. Janeway, which had been mistaken for a remittent form of malarial fever. In another case, in the practice of a country physician, an old man of seventy developed the history of abscess of the liver, but a diagnosis to that effect was not made. Finally, rupture into the lungs and death from apnœa was the result.

Again, in my own practice, as a sequel to an attack of dysentery, an old man of sixty presented the symptoms of suppurative hepatitis, with the exception that instead of bulging there seemed to be a retraction of the right hypochondrium. An aspirator was not introduced, and the patient died without rupture or a verification of the diagnosis.

In the case under consideration, the symptoms suggestive of inflammation, and later suppuration in the liver, were: climate; free indulgence in rich, highly-seasoned food; sedentary life, with constipation; gastro-duodenal catarrh; jaundice; pain and tenderness, and fever and rigors. On the other hand, suppurative inflammation of the liver is rare, and the pyrexia and rigors are usually attended with profuse sweating. Jaundice, to a marked extent, is generally absent, and when present is *per se* not a very valuable diagnostic symptom, depending as it does on a catarrhal swelling of the bile ducts or pressure on these ducts from accumulation of pus. Pain is not so acute or suddenly developed as a rule, unless associated with a local peritonitis. The question of malignancy was the one which gave most concern. Bartholow says: "When at or after middle life, in a patient with a history of former attacks due to gall-stones, there begins a fixed pain in the right hpyochondrium, and subsequently jaundice, the existence of a malignant growth in connection with the cicatricial tissue and ancient organized exudation should be suspected, and this suspicion will be confirmed if subsequently a tumor can be felt." Again, "and especially are organized exudations the favorite seats of cancer and new formations, those, for example, about the gall-bladder and cystic duct, resulting from repeated attacks of passage of calculi." The persistency of the pain, the history of a former attack, though of shorter duration, the contracted and adherent gall-bladder and the vomiting—age considered—presented an array of symptoms suggestive of malignant trouble. Yet the slow development, the fawn or bronze color of the skin, prior digestive disturbances, the peculiar cachexia and the existence of a tumor, were conspicuous by their absence.

The indications pointing to gall-stones as the cause of the trouble, are: climate; age; sex; sedentary life and indulgence in the pleasures of the table; history of a previous attack; the abrupt onset with the characteristic pain, followed shorty by jaundice, indicating biliary obstruction, which had not the time to form outside and occlude by pressure, but must be inside the duct or ducts preventing the transit of bile; the passage of typical gall-stones, though this may take place in connection with malignant disease; the gradual return to health, as indicated by cessation of all pain, vomiting or inconvenience of any description whatsoever in the regions of the stomach, gall-bladder and liver; clear, healthy skin and a re-accumulation of flesh to nearly 200 pounds.

I have reached the following conclusions: The diagnosis of simple gall-stones, especially when impacted in the common duct, as these were, is not always an easy matter. Two of these stones were lodged in Vater's fossa for a period of two months, in the case of the first, and three months in that of the second. The slight diminution in the severity of the symptoms, after the passage of the first stone, was due to the lessened distention in the duct by the one remaining. Sweet oil probably has some virtue in biliary obstruction, as evidenced by the copious discharges of bile following its first administration, and the expulsion of a stone after the second; but the fact that it was given several times without result—which in order to avoid details I have not mentioned—and two of the three stones accompanying the purgative action of cathartic pills, lessens to some extent the confidence in oil, giving rise to the thought that any active cathartic might do as well, and that the passage of the stones into the intestines was due to the combined influence of quinine and morphine. It would be interesting to know what per cent of obstructed bile-ducts take on malignant growth.

"I hear the Apache Indians have broken out again."

"How many have they murdered?"

"Nobody; they've got the measles."

—*Yale Record.*

COMMUNICATIONS.

THREE CASES OF PLASTIC NASAL SURGERY—FOR SADDLE-SHAPED NOSE, REMOVAL OF ENTIRE NOSE AND ARCHED ROMAN NOSE.*

W. W. KEEN, M.D.†

CASE I.—SADDLE-SHAPED NOSE REMEDIED BY THE PERMANENT INSERTION OF A SILVER-GILT PLATE.

On April 9, 1895, A. McG., a woman of twenty-five, was admitted to the Jefferson Medical College Hospital, for treatment of a deformed nose. Eighteen years previously she had fallen and fractured her nose. The bridge of the nose was almost entirely obliterated, being scarcely more than an eighth of an inch above the level of the cheek, thus tipping her nose markedly upward and also making her mouth very oblique. I was consulted as to the possibility of remedying the deformity, and Dr. Walter J. Freeman kindly examined the nose and found that there was no impairment of either breathing or smell. I decided not to interfere in any way with the bones, but to carry out the following plan: Dr. W. J. Hall, a skilful dentist, who has paid special attention to the cure of such deformities, first took a cast of the nose, and upon this built up a wax nose which was satisfactory to the patient, as well as to me. From this as a model he constructed an artificial bridge, consisting of two plates of silver soldered together; the posterior plate corresponding to the shape of the bones, the anterior plate (somewhat smaller) corresponding to the desired outline of the remodeled nose; the space between the two plates was left vacant, but was entirely closed by soldering them together. This made the piece to be inserted much lighter than it otherwise would have been. All around the margin a row of small holes was drilled, which, it had occurred to me, would fix the plate firmly in place by granulation-tissue pushing through the apertures and being probably later transformed into fibrous tissue. The plate was then polished and heavily gold-plated.

On April 19, 1895, a transverse incision was made just above the alæ of the nose, and the superficial tissues loosened as far as the lower border of the frontal bone on each side, and slightly toward the tip, below the transverse incision. My object in loosening the soft parts towards the tip of the nose was to prevent the edge of the plate from protruding. The gilded plate was then inserted, and the opening closed by Halsted's subcuticular suture. The suture was removed six days after its insertion. The highest temperature was 99.4°. A bleb formed over the bridge of the nose, but soon healed.

The gold plate has never caused the slightest inconvenience, and on seizing the nose by the thumb and finger, the plate seems to be very firmly fixed in place.

Up to the night before the operation, I had believed that my idea was entirely original, but on that evening Dr. Taylor pointed out to me a paper in the London *Lancet* for February 17, 1894, by Dr. S. K. Ellison, of Adelaide, South Australia, reporting the insertion of a nasal plate, which, from the description, I am led to believe was practically identical with my own. His operation was done in 1886, and after seven years the plate was still retained with entire comfort.

In a similar case I should be inclined to make an incision on one side of the nose sufficiently large to allow of insertion of the plate, with a very small incision upon the other side for the purpose of loosening the tissues from the bony and cartilaginous nose.

Since this operation was done, I have seen the notes of several somewhat sim-

*Read before the Philadelphia County Medical Society February 26, 1896.

†Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia.

ilar cases. In the *Medical Record* of April 27, 1895, Dr. Weir reports the treatment of a case with a celluloid plate. He first attempted to use gutta percha, which proved unsatisfactory by reason of softening, and sometimes also was not tolerated. Later he hit upon celluloid, which had been used for closing apertures in the skull by Fraenkel, and this seems to have been very satisfactory. Attempts at inserting such plates through the nostril, which I also had considered, do not seem, as a rule, to be tolerated so well, as in two cases Weir was compelled to remove the celluloid plate, which lacked sufficient support from below. In two of his cases, through an incision in the cartilage within the nose, he chiseled out the bone and also removed a portion of the cartilage, thus restoring the contour. In another case he made a V-shaped incision inside of the mouth to bring down the lip. It will be noticed that in my own case the effect of raising the skin over the bridge of the nose has been to depress the tip of the nose and the upper lip, making what was a very oblique mouth a horizontal one and thus improving the appearance very much.

In the *Annals of Surgery* for June, 1895, Stimson also reports the case of a man, of twenty-five, who had a saddle-shaped nose from fracture. A piece of aluminum five-eighths of an inch long was inserted between the skin and the bones through a small incision in the alæ. As the outline of the nose was not satisfactory, a year later the wound was reopened, the piece of aluminum removed, and in its stead one of gutta percha, about half as large again, was inserted. The gutta percha in this case seems to have done very well.

In the *New York Medical Journal* of September 28, 1895, Foote has reported a case operated on by Bull, of New York, by means of a platinum bridge. In this case the upper lip and the nose were separated from the superior maxillary so as to expose the nasal bones. Holes were drilled into the left nasal bone and both superior maxillæ just outside the anterior nares. The platinum bridge had three supports, which were pressed into these holes. A steel pin was thrust through the nose from side to side, holding it securely in position. A considerable amount of swelling and headache followed the operation, but disappeared within a week. The steel pin was removed on the seventh day, and the patient left the hospital in seventeen days. The improvement was very great, but the outline of the nose does not seem to me to be quite as satisfactory as in my own case. There is apparently, however, the same improvement in the position of the mouth from the lowering of the tip of the nose. It seems to me that the multiple holes in the side of the plate are quite sufficient to hold it in place, if I may judge by the result of my single case, instead of the more severe operation resorted to by Bull.

Schimmelbusch (*Archiv für Klinische Chirurgie*, 1895, p. 739) condemns the use of all foreign bodies, including gold-plate bridges, ivory, etc., but the cases which I have cited in this paper show that he is quite wrong in his conclusions against them. In fact, I am by no means sure but that in the second case I might have been able to construct a new nose by a forehead flap, giving it shape by means of such a gilt-silver support.

CASE II.—REMOVAL OF THE ENTIRE NOSE FOR SARCOMA, WITH AN ARTIFICIAL NOSE FIRST OF ALUMINUM AND LATER OF SILVER.

W. J. L., aged fifty, was kindly sent to me at the Jefferson Medical College Hospital, December 3, 1894, by Dr. T. A. Enos, of Townsend, Del. The personal and family history was negative. About four years previous to coming under my care the patient had noticed a small wart on the left side of his nose. Two years later he tried various quack cures for it, when it began to grow, and when I saw him it was a circular tumor, one and one-half inches in diameter, extending from a little to the right of the bridge of the nose slightly on the left cheek. The skin of the right side of the nose was infiltrated, and also that of the left cheek to some distance from the growth.

On December 5, 1894, by knife, bone-forceps, and chisel, the entire nose, excepting a little bit of each ala and the septum, was removed, together with a small portion of the adjacent left cheek,

the skin of which was involved. The incision just grazed the inner angle of the left eye. The left antrum was opened slightly. The growth was found to have penetrated deeply into the nostril. The hemorrhage was moderately severe, but easily checked by the Paquelin cautery, hot water, and pressure. The entire wound was then packed with iodoform-gauze, and dressed as usual. The wound was sufficiently healed for him to go home the first of January, 1895.

The question arose then as to a new nose, and I decided not to do a plastic operation, but to have an artificial nose applied, because, *first*, not only was the nose removed, but a considerable part of the left cheek also; this would require so large a flap as to take a large part of the skin of the forehead and leave a very unsightly scar. *Secondly*, so broad a flap would not retain any prominence like a normal nose, but would flatten out as a mere flap of skin. And *thirdly*, I feared that so large a flap would probably undergo more or less gangrene.

Accordingly, I again invoked the kindly services of Dr. Hall, who constructed an artificial nose of aluminum, so as to be very light. It was constructed with a flange below, which hooked behind the bone, and at the upper end with a short lever actuated by a spring. The lever could be pulled down by a wire which was scarcely visible where it protruded through the artificial nostril. When the lever was pulled down by this wire, it could be pushed behind the projecting bone at the top of the large opening, and on releasing the lever the spring pushed it up just behind the bone and so held the nose in place without spectacles or other artificial means.

The lightness of the material from which it was constructed made the pressure both at the upper and lower borders so slight as to give no trouble. A very unexpected difficulty, however, presented itself after the lapse of between two and three months. The nose came entirely to pieces by the destructive action of the tears on the soft solder—hard solder cannot be used with aluminum. The metallic wire which pulled down the lever was made of equal parts of aluminum and tin, and this also was dissolved away. Dr. Hall, accordingly, made a second nose of coin-silver, which has answered very much better.

The new nose was painted to resemble a flesh-color as nearly as possible, and improved the patient's appearance very much, the large hole left by the healing of the parts being most unsightly. The disease so far has shown no tendency to recur.

CASE III.—A MARKEDLY ARCHED ROMAN NOSE CONVERTED INTO A STRAIGHT GRECIAN NOSE.

E. H., aged thirty, entered the Jefferson Hospital March 26, 1896. Six years ago he sustained an injury to the nose which rendered a congenital prominence still more marked. The nose was markedly arched, though no more so than many noses whose owners are quite satisfied with them. He stated to me that its appearance interfered seriously oftentimes with his obtaining employment as a waiter, and that he wished it made into a straight or Grecian nose, though he did not express it in these words; I tried to dissuade him from operation, as his nose was a very respectable one, but he insisted very strongly upon it.

Operation was performed March 26, 1896. A linear incision was made to the bone from near the tip to the base of the nose, and the soft parts dissected loose on each side. With a drill I then penetrated the bones of the nose about the middle of their length. This drill did not go through the soft parts, which were first retracted and then held out of my way by the drill which I left in place for the time being. I then chiseled out a piece of this shape, (), about twenty-two millimeters long and at its widest part five millimeters wide. This made an opening into the interior of the nose. I then attempted with a pair of strong forceps to crush the sides of the nose together, but found they were still very resistant. One or two blows of the hammer on a chisel just at the juncture of the nose with the cheek fractured the two sides of the nose. I was then able to bring them together very well. I then withdrew the drill and by means of a straight needle passed a stout thread of catgut through and tied it tightly. This held the bones in place. A needle threaded with another thread of catgut was passed

through the cartilage, which had been partially removed, and the tightening of this ligature brought the whole of it together very nicely. A little trimming of the surfaces was needed with the double rongeur forceps, and then I closed the incision in the skin with Halsted's subcuticular suture. The result was most satisfactory as regards shape, there being a good straight nose instead of the curved nose which the patient originally had.

He made a speedy recovery, without fever or suppuration, and was discharged six days after the operation entirely cured. The scar is scarcely visible.

A STUDY OF THE MAXILLARY BONES AND THEIR RELATIONS WITH SOME OF THE ADJACENT TISSUES.*

M. H. CRYER, M.D., D.D.S., PHILADELPHIA, PA.

It gives me much pleasure to have the opportunity of showing you photographic slides made from sections of the maxillary bones and some of their associated tissues. In doing so I cannot but think that many of the points that were new to me when brought out by these sections are known to many of you; if this be true I hope that you will still find novel material illustrated.

These studies have been made after the same method which the otologist has followed up his specialty of the temporal bone, in connection with its surroundings. The rhinologist in the same manner has taken up the nasal chamber, with its adjacent parts. These specialists have carried on their researches by making sections in all directions through the particular region in which each was most interested, their sections being made not only from articulated skulls and cleaned bones, but also those with their tissues dried upon them. So, here in the same manner, the mouth has been taken up, with its surrounding tissues and relations. These special studies naturally overlap each other. Both the rhinologist and the otologist have long since discovered kindred interests in the same region and a more exhaustive study of stomatology will carry the student to, if not into, the fields of other specialists. The main points to be considered are as follows:

In the upper jaw.—

1. The maxillary sinus and its relations with the surrounding tissues from fetal life to old age.

2. The shape and size of the sinus at various stages of development.

3. The relations of nerves and vessels passing through and along its walls.

4. The opening of the sinus into the nasal chamber.

5. The lateral surfaces of the nasal cavities, showing the complex structures that are associated with the nasal portion of the superior maxilla.

In the lower jaw the principal facts to be observed are:—

1. The U-shaped character of the cortical portion and the cancellated tissue within.

2. The inferior dental canal or the cribriform tube of the inferior maxilla, and the small tubes running therefrom to the teeth and to their interspaces.

3. The relation of the roots of the teeth to the canal and surrounding tissues, and the manner in which the nerves and vessels reach the teeth.

4. The sliding forward of the cancellated tissue within the U-shaped cortical portion of bone.

Slide No. 1 represents the anterolateral view of the skull, giving a general idea of the various external bones of one side of the face and head. The articulation of the teeth is almost normal. It gives the relations of the bones of which we are to speak to the other external ones. The outer surface of the lateral and interior wall of the antrum is shown, the teeth having been denuded of the external plate of the

*Lantern demonstration with remarks before the Philadelphia County Medical Society, March 25, 1896.

alveolar process; and, so removed, it will be seen that the maxillary sinus has been opened immediately over the roots of the first, second, and third molars, showing how thin, in this case, the bone is between the roots of the teeth and the floor of the sinus. It is also very thin over the points of the roots of the cuspid and first and second bicuspids.

I wish to draw attention to the position of the infraorbital foramen, which is generally described as the termination of the infraorbital canal, which passes through the solid portion of the infraorbital ridge to the groove in the floor of the orbit. Several of the slides to be exhibited will show that this canal often passes diagonally through the sinus, somewhat in the shape of a tube—a point I have not noticed described in any work on anatomy.

On the inner side of the orbit is the os planum of the ethmoid bone, and at the inner anterior angle will be seen the opening of the nasal duct; these structures will be again referred to when viewing the internal structures of the nose. We shall omit speaking of the lower jaw until further on.

Slide No. 2 shows a perpendicular transverse bilateral section, made by passing through the anterior portion of the orbit, maxillary sinus, and the first molar of each jaw on either side. The eye has been divided just in front of the crystalline lens. Between the upper portion of the nasal cavities are seen portions of the middle ethmoid cells. In about the center of the floor of the orbit and roof of the sinus, which is very thin in this case, we find the infraorbital nerve in its canal, as generally described, and, below, the nearly triangular cavity of the maxillary sinus is seen, with a partial septum crossing transversely from the inner to the outer wall.

In the angle of the right sinus can be seen the anterior buccal root of the second molar, while on the inner wall is a portion of the palatal root of the first molar. The buccal root of the left first molar is easily seen passing well up in the outer wall of the sinus.

The central portion of this and the following slide gives a fine view of a transverse section of the nasal chamber. The septum in the center is remarkably straight—very seldom found so straight. Above the septum is the crista galli, to which the falx cerebri is attached anteriorly. On either side of the septum, at its upper attachment, is the roof of the nasal chamber. Running down on either side a little distance from this are the middle turbinated bones, the scroll-shaped bones below, hanging from the outer walls, being the inferior turbinated bones. The superior turbinated bones cannot be seen in a section in this position, as they are situated farther back. The space from the under surface of the inferior turbinated bone and the floor of the nasal cavity forms the inferior meatus, into which the lachrymal duct empties the fluid from the eyes. The space between the middle and the inferior turbinated bones is known as the middle meatus, through which the frontal and maxillary sinuses have their openings into the nasal chamber. The fluids from the middle and anterior ethmoid cells also pass through this meatus. Between the walls of the ethmoid sinuses and the middle turbinated bones is the unciform process. The spaces between this process and the outer walls of the nasal cavities are the semi-circular grooves generally known as the hiatus semilunaris. It is in this groove-like place that the excess of fluids passes from the various air-cavities, including the frontal and maxillary sinuses, out of the antrum at its upper anterior corner. Sometimes the opening is in the roof of the sinus, as will be shown. This groove passes backward, the uncinate process forming a guard to the opening of the maxillary sinus and thus preventing any foreign substance passing into the sinus.

We often speak of the fluid passing out of the sinus. It is a question in my mind if such is the case in a normal condition. It is more than likely the law of supply and demand is so governed that the parts are kept moist only, and the opening at the top so arranged as to prevent the undue loss of the fluid.

The openings of the maxillary sinuses are at the top, thus preventing drainage while the subject is standing or lying on the back; while the openings of the other air-cells or sinuses are so arranged as to make almost complete drainage.

Sometimes we hear of a "sound"

being passed into the maxillary sinus. This cannot be done in a living normal subject.

Slide No. 3 represents the anterior portion of the same section. At the upper superior angle is seen a string marking the passage from the antrum into the hiatus semilunaris. In the floor of the antrum will be seen another septum. On the left side of the subject will be observed the anterior buccal and the palatal roots of the first molars. In the outer and inner walls of the antrum, from a dental standpoint, the position of these roots, as shown in this and the last slide—also in the following one—should be very interesting. Abscesses of these roots could very easily open into the sinus. The extraction of these teeth, if not carefully done, would carry away part of the floor of the sinus. Also, by using much force in placing artificial crowns, the floor could be easily fractured. In the case of a breakage in extracting, the roots could easily be forced into the sinus by the use of root-forceps.

In the great majority of skulls examined belonging to the white race, roots of the molar teeth either pass up in the walls of the antrum or point directly to the floor, being covered only by a thin, conical portion of bone; and occasionally this lamina of bone is lost, leaving the point of the root uncovered. A specimen will be shown in which an abscess has broken through this thin partition into the sinus.

In the colored race the walls and the floor are much thicker; therefore, we do not, as a rule, find the roots of the teeth passing up into the wall or even near the floor of the sinus. The relations of the teeth with the sinus vary so much that no set rule can be accepted; in fact, all the bones and structures of the face vary greatly in themselves and their relations with other structures.

Slide No. 4 shows a section made perpendicularly, transverse just within the infraorbital ridge, by taking off the anterior wall of the maxillary sinus. In the upper portion is the anterior wall of the frontal sinus, on the left side the nasal septum, and within the septum the nasal cavity.

The inferior turbinated bone is seen passing from the external wall of the chamber between the upper portion of the turbinated bone and the nasal wall of the antrum. Here also is seen the anterior half of the nasal duct, commencing at the inner angle of the orbit and terminating in the inferior meatus. The hard palate and alveolar process also are seen. They are both about the same thickness in this specimen. This would not be a good subject for implantation of teeth. The right picture is a section made near the posterior wall of the antrum and the orbit, from the same subject as the other. The walls of the antrum, it will be noticed, are very thin, and on the upper right corner will be seen the posterior ethmoidal cells. These exceedingly thin bones generally indicate old age.

Slide No. 5 is a section immediately between the the two just passed, showing its anterior surface. On the upper right corner is the frontal sinus. These sinuses vary much in size and shape; the left may pass far over to the right, or *vice versa*.

To the left is the orbit, with part of the eyebrows showing. In the center of the wall between the orbit and the sinus will be seen the infraorbital canal, below which is the maxillary sinus, which in this case is very large. In the upper portion in the nasal chamber is seen the middle turbinated bone, below which there is a string passing through the middle meatus into the opening of the maxillary sinus. The posterior half of the nasal duct is shown, passing from the inner angle of the orbit to the inferior meatus.

The hard palate and the alveolar process are again shown to be about the same thickness.

Slide No. 6, shows two pictures, the left one being removed from in front of the right one. When speaking of the first slide, the general description of the infraorbital canal was given. This slide and a few others following, will show that the description given will not answer for all. These sections were made by removing the anterior wall of the antrum, passing perpendicularly downward. From the center of the floor of the orbit there is a septum, cutting off a portion of the sinus, forming an infraorbital sinus, which of course

is continuous with the true sinus. In the center of this septum-like wall will be seen a tube-like canal with the infraorbital nerve in place. Above this and at the junction of the septum with the floor of the orbit is an adjunct infraorbital nerve and canal. At the right, marked H S, is the hiatus semilunaris, into which there are many openings, among them that to the maxillary sinus.

In the right-hand picture, to the left of the septum is the opening from the infraorbital sinus into the true maxillary sinus. In the upper right-hand corner of the sinus the opening into the nasal chamber is well shown, passing into the hiatus semilunaris, guarded by the unciform process.

Slide No. 7 is a sagittal section just external to the infraorbital foramen. In the left picture there is, passing through the foramen and the canal, a piece of paper showing its direction, with a clear space over the tube-like canal. Another point of interest in this picture is the elevation of the bone over the roots of the first and second molars. Also within the floor of the sinus will be seen an opening through which an abscess has broken into the antrum from the palatal root of the first molar.

There are also elevations in the specimen over the roots of the first and second bicuspids, not seen in the picture.

In the left upper corner of the right picture is the outer portion of the infraorbital sinus, the lower border of which is about on a level with the tube for the passage of the infraorbital nerve and vessels. Below this process is an opening through the external wall of the maxillary bone. In this case the maxillary sinus extends into the malar bone. The teeth shown are the outer sections of those seen in the left picture.

Slide No. 8 is somewhat similar to the last one, being a sagittal section made internal to the infraorbital foramen. Here, again, the tube-like canal passes below an infraorbital sinus, a division of the true antrum. In the left picture, on the outer wall of the sinus will be seen grooves, the principal one running somewhat horizontally forward, giving off branches to the roots of the teeth.

It is often described that the artery and nerve pass to the teeth in the substance of the bone, from the posterior dental foramen in the tuberosity of the bone, and branches are given off in the bony structure.

This is the case only when the alveolar process is very thick and the sinus very small, and the roots of the teeth are not merely covered by a conical portion of bone in the floor of the antrum. But it is found in nearly all cases as shown, the nerves and vessels pass into the posterior dental foramen, then go through the bone into the sinus, passing into a horizontal groove, small branches passing from that to the teeth, the vessels and nerves being covered by the muco-periosteum while within the antrum.

Sometimes these grooves pass into small canals for a short distance. The main groove passes forward and terminates in the anterior dental canals, the passageway for the nerves and vessels to the anterior teeth. These latter structures are continuations of the posterior dental nerves and vessels. Immediately below the septum of the sinus in the anterior wall are seen several small openings where the anterior dental canals have been cut across.

In the floor of the antrum will be seen the conical cap to the roots of the teeth. Posteriorly is an opening over the buccal root of the third molar; anteriorly is an opening over the root of the second bicuspid.

The large opening in the right picture is the ordinary one found leading into the nasal cavity, as seen in the dried unarticulated bone.

Slide No. 9 is a sagittal section made near the inner wall of the orbit. The frontal sinus is seen at the top, and below this is the inner wall of the orbit, os planum of the ethmoid, including the edge of the inner portion of the floor, below which is the internal wall of the maxillary sinus. At the bottom will be seen an elevation of a tooth-socket. This specimen is made from an almost edentulous person.

It is my opinion that, as the teeth are lost, these elevations disappear and the floor of the antrum becomes smooth and comparatively even. The small divisions or septa, as shown in the second and third slides, disappear with age.

To locate the opening and the direction in which the excess of fluid would pass

from the sinus, a wire has been passed backward into the hiatus semilunaris. A perpendicular probe passes through the upper portion of the opening of the sinus, which in this case is partly in its roof or at the angle of the internal wall and the roof; as the straight probe passes out of the antrum, it passes through the infundibulum into the frontal sinus, showing that fluids could pass directly downward from the frontal into the maxillary sinus. These are specimens showing where the anterior ethmoid cells open just at the maxillary sinus. If the hiatus semilunaris should be closed by pressure on the septum or inflammation on the mucous membrane, the fluids from the frontal and ethmoid cells would pass into the antrum.

I had a patient during the past winter and spring who was troubled in this way, and in whom developed a fistulous opening into the mouth. The sinus was treated for several months without success. The natural opening of the sinus was closed, as proved by forced injections into the fistulous opening in the sinus. The fluid would not pass into the nasal chamber, and finally a large opening was made in the outer wall of the sinus, in order to make a better examination with the finger.

There was found a small tumor just below the natural opening. A curved probe could be passed through the opening in the direction of the frontal sinus. The tumor was then removed and a good-sized opening made into the nasal cavity, the patient recovering in a very short time.

Slide No. 10 is from a similar section of a different subject. It shows the opening of the sinus, running upward, where a small portion of bone has been cut away.

Slide No. 11 is a horizontal section made just below the floor of the orbit, the upper picture showing the roof of the two sinuses, with the nasal chamber and its septum between them. It will be observed that the openings of the sinuses were in the roof; on the left side there is a small probe passed into the sinus on the right side a portion of bone is cut away, to show the direction of the canal-like opening. In the lower picture a fair idea of the shape of the upper portion of the sinus is given. The two round openings seen on either side are for the passage of the lachrymal duct.

Slide 12 represents a section made from the same subject as the last one. It is a horizontal one, made through the middle of the orbit, and gives a good view of the anterior, middle and posterior ethmoid cells, and the septum of the nose at its upper portion.

Slide No. 13 is from a transverse section of a superior maxilla. The right picture is made a little above the floor of the sinus. It shows the elevations and depressions in the floor; in the center of the largest depression there is a small spicula of bone, an exostosis, caused by an abscess of the palatal root of the second molar; on the rim of bone just in front of the sinus is a canal for the passage of nerves and vessels to the anterior teeth. The center picture shows where a section has been made a little lower down, through many of the roots of the teeth, although leaving portions of the floor of the sinus in two places. The point of the palatal root of the first molar is in view, with a large opening on its posterior aspect, caused by the abscess spoken of. The left picture shows the cap turned over from the middle one.

Slide No. 14 is made from the skull of a seven-months' embryo. It is a transverse perpendicular section, just within the floor of the orbit. In the upper portion will be seen two openings into the brain-case, with the crista galli and the falx cerebri between them; below this is the nasal chamber, with its septum. Hanging from the outer walls of the chamber are the middle and inferior turbinated bones. In the middle meatus there is seen the unciform process, passing upward and a little inward from the base of the inferior turbinated bones. To the outer side of this process is the hiatus semilunaris, from which there is a small opening passing into the maxillary sinus, which is very small at this period of embryonic life.

The development of the sinus commences about the fourth month of fetal life by an invagination of the lining membrane of the nose within the hiatus semilunaris, in the position as shown in the picture. At the time the invagination commences and the eruption of the

permanent teeth, the greater portion of the superior maxilla is occupied by dental organs. As the invagination takes place and progresses, the cancellated portion of the bone becomes absorbed. This absorption of the internal portion of the superior maxilla is carried on in various degrees throughout life, until in old age the walls become exceedingly thin, as shown in slide No. 4. As this absorption takes place, the roots of the bicuspids and molars are encroached upon, until in many cases the points of the roots are covered only by a very thin lamina of bone; even this is sometimes lost, leaving only the muco-periosteum. The re-absorption and enlargement of the sinus occasionally extends into the malar bone, as shown in slide No 7. At first the sinus is somewhat spheroidal, but it eventually takes a more triangular shape.

The dividing lines between the malar and the maxillary bones are plainly seen. In the lower jaw it will be observed how much space is occupied by the germs of the teeth, leaving very little space below for nerves and vessels.

Slide No. 15 represents three permanent teeth, a central, lateral, and cuspid, that were removed from a living subject about eight years ago. The patient was past middle life and suffering from neuralgia. He had no teeth in the process of the right upper maxillary bone, the region of his pain. Most of them had been extracted in the hope of giving relief.

The antrum was opened by Dr. Garretson and myself in search of the cause. We were somewhat surprised to see the three crowns protruding into the sinus; the roots were imbedded in the inner angle of the wall of the sinus. After being extracted by a small tooth-forceps the parts were treated in the usual way, and relief, with subsequent cure, was secured to the patient.

The crowns, it will be seen, are normal in shape and quite healthy, the roots being more or less defective. The pulps were alive, and it might be said that the nerves were being infringed upon at the points of the roots, thus causing the pain. I have seen several cases in which a greater portion of a tooth was found within the antrum, but I think this is the only case in which three have been reported.

Slide No. 16 represents two cuspids impacted in the upper jaw, lying at nearly right angles to each other. They were entirely covered by bone, and were exposed by a surgical bur. The end of the root of the right one is somewhat curved. There is but a slight layer of bone between it and the floor of the sinus, it being perforated by three small openings.

The roots of each tooth lie across the alveolar process, which has prevented the second bicuspids from being fully developed. The end of the right lateral incisor has been pushed out of the process altogether.

Slide No. 17 is made from the same jaw as the preceding one; it gives a view of the right and left sides. It will be observed that the roots of the first molars on either side differ very much from each other. The end of the root of the right lateral shown in the right picture has been forced out of its true position by the impacted cuspid of that side.

Slide No. 18 is a lateral view of the nasal chamber, showing the three turbinated bones and the three meati in the central portion. The frontal sinus is large and well shown. At the right hand upper corner the sphenoid sinus is shown.

Slide No. 19 is made from the same specimen as slide No. 18, having a greater portion of the inferior and part of the superior turbinated bones removed and turned upward, and showing the inside of a lid and the cells below. A section of the inferior turbinated bone is removed, showing a probe passed into the lachrymal duct. The frontal sinuses are well shown, the upper one being the left sinus as it passes over from the left side; the under one is the right sinus passing inward and upward beyond the left, there being a very thin lamina of bone between them.

The infundibulum is plainly seen passing to the hiatus semilunaris. The hook-like process seen just below the infundibulum is the unciform process. In the recess back of this is the passage to the maxillary sinus, the process acting as a guard to the opening, and preventing a sound from being passed into the sinus in normal skulls. The anterior, middle and posterior ethmoidal cells, and the sphenoidal sinus, are well shown. In the posterior part of the nasal cham-

ber the opening to the Eustachian tube is seen.

Slide No. 20. Usually there are three scrolls or turbinated bones, but this specimen shows three well-marked ones and two smaller ones, making five meati and five turbinated bones. In many animals, as the dog and hog, the upper portion of the nose, or that which presides over olfaction, is filled with a large number of scrolls.

Slide No. 1 is the first shown for illustrating the upper jaw. It will now be used to describe the lower one. The lower jaw is made up of a U-shaped cortical or dense bony structure, the ends of the U terminating in the plates of the alveolar process. It may be said to open at the top, and in normal conditions the teeth are inserted into this U-shaped space. A slightly compact tissue, somewhat cribriform in character, surrounds each tooth. The remainder of the space is filled with fine trabeculæ, forming the cancellated tissue, through which passes the inferior dental canal, which I prefer to call the "cribriform tube of the inferior maxilla." It passes from the inferior dental foramen forward on the inner side of the ramus of the jaw, downward and forward through this U-shaped space to near the incisors. At first it passes along or near the inner cortical portion of bone; when it gets near the mental foramen it crosses over nearly to the outer cortical wall. Its depth after leaving the ramus is in the lower portion of the U-shaped space, and passes beneath the level of the mental foramen. This tube can be isolated or removed from a normal specimen, as shown in slide No. 22.

As the tube passes along it becomes more and more cribriform. Beneath the first molar it becomes so opened that the tube-character is almost lost, but passing forward it again resumes its original character.

From this main cribriform tube there are lesser branches passing to convey vessels and nerves to the substance of the bone; also in more or less curved course to the roots of each tooth. A little anterior to the mental foramen there is a cribriform tube passing backward from the main tube to the foramen for the accommodation of the mental nerves and vessels. This return canal is almost invariably the normal arrangement, but occasionally this tube passes from the main tube as it approaches the foramen. It will be seen in the picture that the anterior portion of the wall of the mental foramen has been cut away, thus showing the direction of the returned tube.

The small lateral tubes which serve as nerve-conduits from the main tube to the roots of the teeth pass upward and forward in a more or less curved direction, varying according to the position of the tooth, those going to the third molar passing almost vertically upward; in those to the second molar the forward direction is greater; in those to the first molar it is increased still more; the one to the second bicuspid has the longest curve of all. Sometimes, instead of commencing at the main tube, this one is an offshoot of the tube to the anterior root of the first molar. The tubes going to the before-mentioned teeth all curve forward and upward from the main tube posterior to the mental foramen. The small tubes going to the roots of the first bicuspid and cuspid are branches from the recurrent tube to the mental foramen, and are curved slightly backward as they pass to these teeth. The tubes going to the two incisors curve slightly forward as they pass upward to the roots. The finer tubes going to the interspaces and general cancellated tissue have the same general direction and curvature as those going to the roots of the teeth in their immediate vicinity.

The cortical U-shaped portion of the bone is the framework of the jaw, and forms the supporting structure; but it increases in length and breadth in a different manner from its contents. It is more than likely that it grows by interstitial process, each half having three fixed points, viz.: the ramus, the mental foramen, and the symphysis menti. There is no doubt that the distances between these points increase. The contents of this U-shaped space slide forward as the cortical structure increases in length, the teeth posterior to the mental foramen being pushed forward by each successively erupting molar, thus giving the curvature to the various small tubes going to the roots of the teeth, etc., and accounting for the stretching of the main tube until its

character is almost lost under the first molar. This also explains the recurrent feature of the tube in relation to the mental foramen. As its end is attached to the walls of the foramen, the mass of cancellated tissue is pushed forward in its process of growth, and the tube itself is carried with it, making a loop. The reason that the small tubes going to the first bicuspid and cuspid curve backward is that their points of origin have been carried forward with the return tube, as they belong to that portion of the tube. The small tubes going to the incisors curve slightly forward as they arrive from the continuation of the main tube near the point where it curves backward to the foramen.

Thus we see that the anatomic structure, the relations of the various teeth considered in connection with the order of their development, and more especially the direction which the lateral branches of the main cribriform tube take in connection with the roots of the several teeth, furnish us with a permanent record of the method of growth of the inferior maxilla during the period between childhood and adult life.

Slide No. 21 is the left side of the lower jaw of slide No. 1. It is enlarged, showing the fine net-work of the cribiform tubes throughout the cancellated tissue; in fact, they form the greater portion of it, the special ones going in a slightly curved direction to the roots of the teeth. A wire in the mental foramen gives the direction of the return-tube or canal.

Slide No. 22 is taken from a specimen in which the cortical and the cancellated tissues have been cut away, leaving the cribriform tube isolated, showing it as an independent structure, and not merely a canal through the bone.

Slide No. 2, repeated. The right side gives a good idea of the U-shaped cortical portion of the bone heretofore spoken of, with the root passing into it. Below the root is the cribriform tube and the nerves situated within it. This gives an idea of the position of the nerves below the root of the first molar. It can be imagined what damage would be caused by a discharge of infectious matter from this root within this cancellated tissue.

The slide also shows the floor of the mouth and tongue cut transversely.

Slide No. 23 shows the anterior portion of the lower teeth in position. The principal object in showing this slide is to explain why it is often difficult to extract the second bicuspid from a jaw that has lost no teeth. It will be seen in this case that in a transverse section the roots of the second bicuspid are nearly in a line transverse with the anterior root of the first molar. The roots are also very long, extending below the root of the molar and nearly down to the inferior dental nerve. The bone at this point is usually more compact than farther back. Taking these points into consideration, this accounts for the difficulty in extracting these teeth without breaking them, and of course we must also consider that the root itself is not a strong one.

Slide No. 24 represents the lower jaw cut lengthwise nearly through its center, exposing the cancellated tissue, the sockets of the teeth, and the cribriform tube or inferior dental canal, with its branches going to the sockets of the teeth. As the tissue is very frail, much of the trabeculæ is lost. The outer section shows the direction of the recurrent tube for the accommodation of the mental nerve and vessels.

Slide No. 25 represents a metal cast, showing the size of the cancellated structure within the U-shaped portion of the body of the bone. It was made in the following way: After the openings of the sockets of the teeth were covered by pieces of paper, a slender tube about eighteen inches long was attached so that its lower opening was in connection with the inferior dental foramen. The bone and the lower end of the tube were invested in plaster of Paris with a a little asbestos. After this was thoroughly set and dried, and made about the temperature of 212°, fusible metal was poured into the tube, passing along the metal tube into the canal or cribriform tube and along its course, sending the metal out through its many openings into the cancellated tissue and the sockets of the removed teeth. The body of the bone and the lower portion of the ramus were placed in a ten per cent. solution of potassium hydroxid. This dissolved the bone away, except particles seen as white spots which penetrate the metal through the cancellated tissue. A transverse section of this preparation

would show fine bony tissue passing all the way through.

The upper picture represents the inner surface, showing the size of the canal or tube, and it might be said that it represents the space occupied by the nerves, blood-vessels, and their membranes. The lower picture shows the outer surface, and the projection seen is where the nerves and vessels pass out of the mental foramen.

Slide No. 26 is a horizontal section of the upper and lower jaws. It is made a little above the free margin of the alveolar process of the upper jaw and a little below that of the lower. It gives the shape and position of the various roots, with their relation to the process and to each other at this joint. Particular attention is drawn to the fact that there is so little space between the roots and the plates of the alveolar process that it would be impossible to force the beaks of forceps between the roots and process without breaking the latter on one or both sides. The lines in the cut represent the strongest axes of the teeth.

Slide No. 27 represents a section cut horizontally through the lower jaw, made near the end of the roots, from the same subject as the last slide. The cancellated portion, with the soft tissue filling the spaces, is well shown. At the posterior part of the picture the nerve is seen passing into its tube. The ends of the roots of the second and third molars, the tip of one of the roots of the first molar, the roots of the first and second bicuspids are plainly seen. A little of the lateral incisors will be noticed. The centrals do not go down so far.

The illustrations we have been going over represent the lower jaw in the normal state. Those following will show various conditions of abnormality.

Slide No. 28 represents several sections of a lower jaw, not quite normal, there being evidences of past inflammation. Several teeth have been extracted before death, which changes the character of the jaw. Some of the sections show but one canal, while in other places there are many, and it takes close observation to tell in which the nerve and vessels have passed. In the operation of making a section or removing the whole nerve from the bone, a surgeon not familiar with this condition of things might easily clean out a portion of a canal, but not touch the nerve. This accident might not happen in a dried bone, but in the living the parts are so vascular, mistakes could be easily made.

At section D it will be seen that the distal root of the second molar penetrates the true nerve-canal. In the case of an abscess of this root, the discharge would flow into the nerve-canal; from this it could pass backward or forward along the nerve, and would give great pain by compression.

A baffling case of abscess on the external part of the lower jaw, just above the facial notch, can be explained, I think, by this specimen. The patient suffered great pain in the lower jaw. Finally a swelling made its appearance; the first molar was much diseased and was extracted, but this gave no relief. The swelling was lanced, from which a small quantity of pus was discharged, but this kept up for two months, when he came to the hospital and was treated in various ways without success.

The teeth for a time were dismissed as being the cause, and cultivations were made from the discharge, to see if it were a tuberculous disease, but without results. The discharge was then examined by the microscope, to see if there were salivary corpuscles in it, but none was found. The second molar was in position and responded to heat and cold; finally a rubber-dam was placed over the second molar, and gently approaching the pulp-chamber, it was ascertained that the nerve in the distal root was in a decomposed state, while the anterior branch was vital.

This was devitalized at once and the decayed matter removed from the distal root, after which carbolic acid was forced down into and through the root by the use of softened gutta-percha.

In a short time the carbolic acid made its appearance at the external opening on the jaw. The tooth was filled with gutta-percha and the patient dismissed. From 4 P. M. until the next morning carbolic acid worked out through the opening, when the parts closed and did not again open. The question was then asked, how could a bone-fistula close so quickly, and why was there no discharge

of broken-down tissue through the opening?

It can be explained by this section. If the discharge from the patient's tooth flows into the canal, like the one shown, it would have an easy passage along the canal, backward and out of the foramen, then down along the bone until it came in contact with the sheath of the internal pterygoid muscle, which could direct it into the submaxillary triangle and then pass out at its weak point, the opening for the facial artery. If such were the case, carbolic acid would clean this fistulous canal in such a manner that it would heal up at once.

Slide No. 29. Since making the preparation for the slide just passed, I have found a specimen in which the roots of a third molar passed out through the inner wall of the lower jaw, a considerable distance below the mylo-hyoid ridge, as shown in the picture before you.

If this tooth had become diseased, it would have discharged its matter at once into the submaxillary triangle. I fully believe there are many unrecognized serious cases in which teeth of this character, when devitalized, cause pus to pass into the tissue of the neck, and even into the thoracic cavity. If diseased teeth in this region do not respond to treatment at once, they should be extracted. It is of much more importance than the saving of a tooth, as not only can ill health result, but death often occurs.

Slide No. 30 represents two views of an impacted third molar. In the upper one the tooth is in the position found when the cap of bone was removed; in the second view the tooth has been rolled out of its socket, showing its inner surface. The bed of the tooth is also shown. The second molar is a devitalized tooth, the distal root of which shows where the impacted tooth has pressed against it. Not only has it done this, but it has also caused absorption of a portion of the root until the pulp-canal within the root is fully exposed, and it must have caused neuralgia in these parts. The roots of the impacted teeth have a slight curve inward at their points; the concavity fits immediately over the inferior dental nerve, and more than likely caused pain by pressure.

The ends of the roots are not fully formed, the apical openings being large. It will be noticed that the roots of the teeth in this jaw are longer than usual, the cuspid passing below the nerve and to its outer side.

Slide No. 31 represents another impacted third molar, situated on the inner side of the jaw, and pointing slightly downward. The distal root of the second molar is slightly absorbed. On uncovering the tooth and taking it from its bed, it was found to be incased in a thin shell of bone as though the dentinal sac had ossified separately around the tooth. The inner portion of this shell is still in position; the nerve and its accompanying tissue is seen passing into the inferior dental foramen immediately against the shell, and has the appearance of being flattened out; it divides and sends a branch around the internal half of the shell. Here again must have been an obscure cause of neuralgia.

Slide No. 32 is made from the left and right halves of a lower jaw, one showing the internal surface of the right half, while the other shows the external surface of the left. In that of the right we find the roots of the third molar curved backward. It is also enlarged by an abnormal deposit of cementum until the independent character of each root is lost. This, I think, has been caused by the vascular excitement localized in these parts.

Not only have the roots become enlarged, but the surrounding bone has become much thickened, and the cancellated tissue of the jaw has lost its fine structure and become more solid.

It would have been impossible to have extracted this tooth without breaking quite a large piece from the inner side of the jaw. A fracture at this point often produces serious results; the mylohyoid artery is liable to be lacerated, or even broken, and the hemorrhage is difficult to control. The consequent inflammation will often cause the lack of free movement of the jaw. It also interferes with deglutition, speech, etc., and even the glottis may become closed.

The left half of this jaw shows an impacted tooth pushing directly against the tooth in front of it. The roots of this tooth have become much enlarged by deposit of cementum. The sur-

rounded bone is also thickened and more compact.

Slide No. 33 is taken from a section made transversely through the lower jaw at the mental foramen of each side. On the left side the cortical U-shaped portion of the bone and the cancellated tissue is in about a normal condition, while that of the right side, the cortical U-shaped portion, and the cancellated tissue have changed. The former has thickened and become more dense, while the latter has become filled with secondary bone-deposit. The only reason that can be given for this difference is that all the teeth on the right side were in good condition, while on the left side the first molar had been much diseased, causing an inflammation of that side of the jaw, the vascular excitement having caused the activity of the osteoblasts of this region to build this bone.

RESOURCES OF CLIMATE IN HEALTH AND DISEASE.*

In studying the physiological and pathological characteristics and influences of the different climates on the human economy, the first observed results on experiencing a *hot climate* may be thus approximately outlined:

1. The circulatory and respiratory systems are immediately but not permanently stimulated, the breathing and cardiac movements being accelerated.
2. The body temperature is definitely increased, the elevation amounting to as much as 1° Fahrenheit, and persisting for years, if not permanently.
3. The appetite is correspondingly increased.
4. The kidneys and sexual system are involved in the prevailing condition of excitation. Puberty in both sexes is inclined to precocity, the animal nature maturing at an early age in comparison with its development in colder climates.
5. There is a marked tendency to enlargement of the liver.
6. The individual loses weight and tends to become spare, notwithstanding the increase of appetite.

Nature's two prime tonics, antiseptics, germicides and restoratives are *pure air* and *sunshine*. In comparison, all the products of the laboratory and the lists of the pharmacopœia are rubbish and dross. It follows that the value of any climate to the hale man, or to the invalid, is in exact proportion to the opportunity and inducement it extends to him to avail himself of these potent agencies. Beside this crucial test the readings and indications of all the complicated meteorological instruments are scientific shoddy. Climatologists need a *comfortometer*.

Climate is unquestionably a controlling factor in establishing the death-rate of any community; but the mortuary statistics are proverbially unreliable, since the records are so carelessly kept and so indiscriminately compiled. Official and compulsory records, extending over long periods, will be required to make these tables accurate, or even passably reliable guides. From those at hand, some approximate inferences may, however, be deduced.

The average annual death rate of the several European countries is thus stated:

France, one in thirty-two; Prussia, one in thirty-nine; Austria, one in forty; Norway and Sweden, one in forty-three; Denmark, one in forty-five; England one in forty-six.

The average annual death-rate for the United States, based on less reliable data than the foregoing, however, has been stated as follows:

Gulf States, one in sixty-three; other Southern States, one in seventy; Mississippi Valley and Atlantic States; one in eighty; Western States, one in eighty-one; Pacific States, one in one hundred and fifteen, and Northwestern States, one in one hundred and twenty.

Setting aside a wide margin on the score of incomplete and inaccurate data, and in the face of the fact that various European localities have acquired a world wide reputation for healthfulness, it appears evident that the climatic conditions found in favored portions of our own country, as well as throughout the entire Union are more conducive to health, enjoyment and longevity than any found in Europe.

*S. S. Wallian, M.D. The *American Therapist*, May 1896.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, JULY 25, 1896.

EDITORIAL.

RELATIVE SEXUAL PURITY.

The question of sexual morality is, in every civilized community, always an issue of great practical importance. It is also one which must be considered apart from other infringements of civil and religious codes, since its root is a perfectly natural physical craving. Yet it is the worst possible sophistry to place sexual indulgence in the same category as the satisfaction of the appetites for food, water and oxygen.

Our attention is claimed, at frequent intervals, by persons who choose to discuss the matter of sexual purity, not so much from the moral and religious standpoint, as from the social and, in particular, as regards the question of sexual equality. The person who simply states that illicit intercourse on the part of a man is a grievous wrong, not only against morality but against the stability of decent society, leaves nothing for discussion. But when a man or a woman attempts to weigh the relative responsibility of the sexes in such matters, to cry out against a society which condones in a man the offense which it will not forgive in a woman, to raise the complaint of unfairness, we believe that some discussion is in order. In any case, we believe that any attempt to raise the standard of morality by

balancing the one sex against the other, will result in leveling downward, not upward.

Statistics are, manifestly, out of the question, but the experience of almost all who have mingled in ordinary worldly circles is to the effect that male sexual impurity is common, and that the fact is quite freely admitted and with few expressions of genuine regret or shame. On the contrary, shame is not very infrequently expressed by those who have remained continent. If straws show the direction of the wind, we may quote with significance the reply of an eminent divine who was urged to preach against some offender whose sin had become a public matter: "Let him who is without sin, cast the first stone." Much as we may deplore this condition of affairs, can we contrast it for a moment with that of any community, real or imaginary, in which female virtue is on the same level, and adhere to the proposition that it is no worse for a woman to sin against her sexual purity than for a man? There may be no truth in the beautiful sentimental belief that the child, growing in its mother's body, absorbs not only nutrition for its physical development, but much of the spiritual and moral essence of the mother's nature, but it is beyond doubt that she contributes by mere heredity, at least, equally to the psychic make-up of the child. Under normal circumstances, it is the mother far more than the father who has to do with the early training of the immature mind and soul. How can pretended moralists ignore the fact that an impure mother exerts many times the evil influence over the tender mind of her offspring that the father possibly could?

The advocates of sexual equality, from the point of view of fairness, overlook many important points and, in calling attention to these, we do not wish to be understood as condoning masculine impurity, but simply as indicating that the whole question must be considered apart from all such arguments. First of all, civilized society of both hemispheres is controlled by women. If they do not choose to be "fair" to the female outcast or to shut their doors against the roué, it is certainly not because they are ignorant of the social evil, nor because they are compelled to such an inconsistency by men, but because they act in accordance with impressions and intuitions which are not always logical, but which rarely fail to be practically wise.

It must also be remembered that society, as a whole, requires just one thing of the average woman—chastity. It does this through an appreciation that the process of reproduction, either anatomically, physiologically, pathologically, or intellectually and spiritually considered, involves the entire woman as it does not involve the entire man. While society at present does not require male chastity, it puts many responsibilities on the shoulders of the man. Business and social dealings which would be considered absolutely dishonorable on the part of a man are readily excused in a woman, and many acts of self-denial are imposed on the former for the sake of the comfort and convenience of the latter. Society also expects the average man, as husband, father or brother, to support the average woman and, so far as practicable, it enforces obedience to this custom. Laws and legal precedents concerning actions for breech of promise favor the woman, even to the extent of assisting her in levying blackmail. The law removes

from the married man the right of absolute ownership in realty, except in a few western States, and even there the homestead falls under the old law. In return, it expects, but makes no provision for enforcing, a moderate amount of assistance by the wife. Cases have occurred, within the past few years, in which wealthy and able-bodied women have sued invalid husbands for non-support, although, to the credit of the sex, it must be admitted that failures of wifely devotion are rare indeed. In the event of unhappy marriage, the law affords the woman every possible mode of relief, while the man's choice is, practically, only between proving adultery or of abandoning his business and losing his identity in a throng of strangers. Lastly, the law protects the chastity of all girls until sexual maturity is reached, and of all women, except as they freely renounce this protection, under penalties almost equaling in severity those for the taking of human life.

Masculine innocence, on the contrary, is almost unprotected. This omission, we believe, is the weak point in the crusade for male virtue. Childhood ought to be equally sacred, whichever the sex. We have known of a little boy being stripped by young women supposed to belong to "good society;" while the very worst rake with whom we have had personal acquaintance dated his career of sexual impurity from the time when, as an innocent school-boy, he was seduced by a teacher. Similar outrages against male decency are not extremely rare, though they are seldom or never made public. So long as all responsibility is on one side, so long will requirements of virtue remain one-sided.

In conclusion, let us again remind our readers that we are not pleading for laxity of morals on the part of men, though we do claim that the preservation of the race and the maintenance of orderly society inevitably depend, to a far higher degree, upon female than upon male virtue. It must also be evident that, so long as society requires of women not much more than an avoidance of actual criminality and relieves her, so far as possible, of the burdens of life in recognition of her moral and physical function in reproduction, a more rigid standard of sexual purity will be demanded of her. And above all, we wish to emphasize the opinion that any rational attempt at securing male virtue must abandon the contemptible premise that sexual laxity is a privilege, and must strike at the root of the evil by extending the same protection to childish innocence and adolescent folly in the boy as in the girl.

Medical Bicyclers.

A Brooklyn doctor is organizing a bicycle club to be made up exclusively of Brooklyn physicians. It is proposed to use the wheel in the discharge of professional duties, making calls, and so on. A number of doctors in that city have discarded the horse and carriage, finding the wheel much cheaper, and at the same time it affords some exercise. The promoters of the movement believe that a doctors' cycling club will lend considerable dignity to the sport of wheeling. The project started among the students of the Long Island College Hospital, where a large number of them have very little exercise, but who feel the need of it.—*American Medico-Surgical Bulletin.*

The gratitude of the patient for the physician is well known to me. It is part of the disease. It comes on with the fever, it improves during convalescence, and is cured by return to health. —*New Orleans Medical and Surgical Journal.*

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, Wednesday, March 25, 1896.

By invitation of the directors, DR. M. H. CRYER presented, with lantern illustrations,

"STUDIES OF THE MAXILLARY BONES."

[See page 112.]

DISCUSSION.

DR. B. ALEX. RANDALL said that as the antrum of Highmore is the meeting-ground of laryngologists, ophthalmologists, dental and general surgeons, it must be viewed in many different aspects. It is from the ophthalmic point that he had generally studied it, as not infrequently affections manifested about the orbit have their origin in antral inflammation. Such lesions may undergo spontaneous cure; and although the position of the antral opening is highly unfavorable to drainage, if men were always as upright creatures in fact as in theory, it must not be forgotten that we often lie down. Drainage of the sinus can often be very satisfactorily achieved, even when the opening is considerably narrowed by swelling, if the head be properly inclined. Dr. Randall has himself occasionally indulged unwisely in acute inflammation of the antrum, and discovered accidentally the cause of his severe "toothache" by stooping over and draining away, with immediate relief, nearly a dram of yellow serum. The same result may often be gained with patients, Bayer and others recommending that the head be hung down by bending over the back of a chair while the hands rest on the seat.

The natural opening of the antrum may be closed by inflammatory thickening, either of its own margins or of adjacent parts; and the accessory opening, often present, may be equally occluded. Cocain-shrinkage may only facilitate access, not affording drainage; but the syringe-canula may in many cases be introduced into the semilunar hiatus by pressing aside the valve-like tissues, and with it this cavity or the frontal sinus may be washed out.

DR. G. G. DAVIS said that a debt of gratitude is due to anyone who will throw light upon disease of the various sinuses that enter into the nasal cavities, as the diagnosis is often very obscure and the treatment exceedingly difficult. This will readily be appreciated when one considers that a discharge coming from the middle meatus may start from the anterior ethmoidal cells, from the frontal sinus, or from the antrum of Highmore. They all open at practically the same spot, the infundibulum. One has to rely upon collateral symptoms to establish a diagnosis. Even after an approximate diagnosis is made, in some cases it is almost impossible to apply any treatment. Take a disease of the ethmoidal cells as an example. It has been suggested by Bryan that they should be curetted away. Bosworth advises the use of the dental drill. When it is considered that the ethmoidal sinuses are covered by a thin scale of bone, separating them from the brain, and when it is remembered that on their outer side is a membrane of bone which is likewise extremely thin and which constitutes part of the inner wall of the orbit, and that the lachrymal canal also passes through the bone, one can appreciate the dangers of attempting promiscuous drilling in this situation, particularly when the least disturbance produces such a flow of blood as to prevent one from effecting these procedures under direct ocular inspection. In the treatment of diseases situated in the anterior or middle ethmoidal cells and frontal sinus, Dr. Davis suggested the following procedure for trial: In endeavoring to cleanse the frontal sinus, he had the patient placed in the supine position, with the head hanging over the edge of the table. Any solution injected through a canula introduced into the infundibulum will trickle by gravity down into the sinus, particularly if the fluid employed be an effervescent one like hydrogen dioxid, for example. A far better cleansing can be secured through the various cells in this way than if the patient be in a sitting position with the head upright. Of course, this is simply a moderate and not the most radical means of curing these affections, but it is one that seems worth trying.

DR. CRYER, in closing the discussion, said that during his studies he had not found a normal skull in which it would be possible to pass a sound, but he had seen many pathologic skulls in which this could be done. Speaking of drainage, he said that if a person should stand on the head or lie on one side the antrum would, of course, drain itself, but in the erect position or lying on the back there could be no drainage, as the normal opening is at the anterior superior angle of the sinus. Occasionally the opening is in the roof of the sinus, and there are cases in which it passes into the infundibulum of the frontal sinus.

DR. G. HUDSON MAKUEN presented a paper, entitled

"AN UNUSUAL ALVEOLAR ABSCESS WITH ANTRAL COMPLICATIONS."

[See page 100.]

DISCUSSION.

DR. B. A. RANDALL said that the point made as to suction is well taken and can be verified by frequent observations. He had known of instances in which an inflamed antrum that had been perfectly permeable in the evening to the electric light was completely closed by the next morning, apparently as the result of blood extravasating into the mucous membrane rather than into the cavity. The sniffling efforts of the patient, caused by the slight irritation, had a cupping effect upon the lining of the antrum, distinctly and uncomfortably recognizable at the time, and formed the only explanation that could be given for such a rapid and complete clouding in such a few hours.

DR. G. G. DAVIS said that inasmuch as there is only one opening in the antrum, he could not see how it is possible for suction to take place; because for suction to exist, there must be a posterior, as well as an anterior opening, or a vacuum would be created. As to drainage, such an excessive amount would indicate an overflow. The first opening in this case was apparently a small one, made through the tooth itself. For the excessive amount of secretion which is said to have been present, this would hardly be a sufficient opening. One could not call it free drainage, and as evidence of this condition, as soon as free drainage was established, the discharge ceased.

DR. MAKUEN, in closing the discussion, said that the outer wall of the alveolar cavity and of the antral cavity was very thin and the probe passed up into the antrum just within this wall, and the plate of bone was felt to yield a little under the pressure of the probe, or the nozzle of a small hard-rubber syringe. As soon as the antrum became involved, the discharge appeared in the nose and diminished through the opening into the mouth. Dr. Makuen had observed in nearly all his cases that drainage takes place through the ostium maxillare even when there is a large opening through the alveolar process. He suspected that nasal respiration may be a causal factor in this phenomenon. The interesting points of the case are that an abscess should form on the covering membrane of a tooth so far removed from any external influence and that it should cause so much disturbance.

DR. JOHN B. ROBERTS read a paper, entitled

"CASES OF ARTIFICIAL ANUS AND FECAL FISTULA SUCCESSFULLY TREATED BY INTRA-PERITONEAL OPERATION."

[See page 97.]

DISCUSSION.

DR. E. W. HOLMES contended, with regard to time of operation, that this should be performed as soon as possible after the inflammatory symptoms have subsided and adhesion has taken place. After this there is considerable cutaneous irritation and eczema, which cause great inconvenience to the patient and may interfere very much with the nutrition. After the fistula is established, there may be constriction at the distal end of the bowel, which would interfere with the passage of feces and add to the difficulty of the operation. Dr. Roberts said very little with regard to the form of operation. It seems that it is a question whether or not the Murphy button should have been used, as it might have expedited the operation in this case. When the intestines are adherent to each other, it would perhaps be unwise to use the button, as in some cases it might not pass down easily. Since the success which attended Dr. Roberts' operation, Dr. Holmes has had a much more favorable opinion of circular enterorrhaphy than before. Dr. Roberts performed the operation by putting the sutures at four points equi-distant and then completing with a double row of Lembert sutures. In the case at the Methodist Hospital, the bowels were so matted together that it may have been impossible to separate them. The success of Dr. Roberts' operation has justified his decision in the matter, but it might be interesting to discuss this question of adhesion, as many obscure symptoms result from them. Examination of the viscera of many bodies has shown that adhesions are very common and patients with various forms of abdominal injuries frequently suffer from obscure symptoms which seem to be the result of adhesions. As to the necessity of breaking up such adhesions, reference was made to the statement by a prominent gynecologist recently that he never broke up intestinal adhesions, while another prominent gynecologist always breaks them up with greatest care, and this would seem perhaps the more rational method of treating these conditions, although it would prolong the operation.

DR. MORDECAI PRICE said that the question of artificial anus brings up several questions. It is nearly always the result of strangulated hernia, or the choice of the surgeon. It is produced by hernia when the bowel is completely strangulated. There is no question about the propriety of the operation, or the kind of operation. There is probably no method as good as the Murphy button and end-to-end union. There should be complete separation of the bowel from its adhesions and also all adhesions in the abdomen, for the simple reason that, if they are left in complete hernia and much time has elapsed between the time of the formation of the artificial anus and the time of operation, the surgeon has no proof of the patulous condition of the bowel. It is, therefore, better to release all adhesions and bands. It would be impossible to use the Murphy button when the bowel is thickened and indurated at the seat of operation. It has been Dr. Price's method to reset such portions as are thickened, and introduce the Murphy button into a healthy portion of the bowel. After being placed in position, this union is reinforced by a Lembert suture, and then the

mesentery is sutured. Failure or leakage does not follow this use of the button. It is useless to do the operation without releasing adhesions. Dr. Price related an exceptional case in which serious trouble followed this procedure. An artificial anus was established within a short distance of the stomach. The patient was much emaciated and in bad condition. Many feet of bowel matted together in the region of the strangulated hernia had to be separated and quite a large piece removed. The patient was unable to stand the operation. Although she lived for several days, she never properly reacted. From Dr. Roberts' description of his case and from the excoriation of the abdomen from the discharges, it would seem that the opening in the bowel must have been high up. It has been Dr. Price's experience in these cases that the digestive fluids high up in the bowel excoriate very much. A number of surgeons have performed lumbar or inguinal colotomies when the skin was almost unaffected.

In those cases in which the irritation is very great and the lesion in the bowel high up, the necessity is greater for immediate surgery. Dr. Price considered the Murphy button a life-saving instrument. He believed that the method is all right and that it applies perfectly and that the time of operation is greatly shortened, but he would hesitate to use the Murphy button in what is called anastomosis, when a knuckle of bowel is left out and when the button may drop in the loop. On the other hand, he would have no hesitation in uniting the bowel with a simple suture and had done so a number of times. The old methods of anastomosis were all right in their way, and it was simply a step in the right direction. Dr. Price had used the Abbe rings in several cases with great satisfaction. With regard to fecal fistula, unless the bowel comes into direct contact with the abdominal walls, the fistula should always close. This has been demonstrated in many cases. Dr. Price has seen a number of cases in which the bowel was patulous and the gangrenous process had gone on in its destruction at the head of the colon in bad cases of appendicitis, leaving a number of holes at the head of the colon. Light packing and rubber drainage were followed by free discharge of fecal matter from the bowel. Union had been perfect in all these cases in the course of ten days or less. Fecal fistulæ may occur in the descending colon in the sigmoid flexure and in the transverse colon as a result of inflammatory conditions. In other words, a gangrenous ovary and tube lying in contact with the bowel is likely to lead to gangrene of a portion of the bowel.

With regard to glass drainage-tubes, various accidents have been unjustly attributed to their use. Dr. Price referred to a case presenting a gangrenous spot in the bowel in a case in which he knew that a fecal fistula would be the result. To avert that condition he used glass drainage. At the end of forty-eight hours gas and contents of the bowel were being discharged through the tube.

DR. E. E. MONTGOMERY endorsed Dr. Roberts' method of opening the abdomen, as by that means the surgeon is better able to bring healthy ends of the bowel together and insure more thorough and certain union. The only criticism to be offered concerned the case in which the intestine was brought up and attached to the opening. It would perhaps be a better plan to have resected the intestine as a primary operation rather than to have left it as long as it was left, and allow the continued suffering of the patient. With regard to the adhesions of the intestine, it seems better to break them up, as one is uncertain in regard to the patulousness of other portions of the bowel. The method of treatment is an important one. Ordinarily, breaking up the intestines leaves a raw surface which may become adherent and possibly give rise to disturbance subsequently. In a case in the Philadelphia Hospital some years ago, following an operation by one of Dr. Montgomery's colleagues, the patient had all the symptoms of obstruction. In this case a large amount of the bowel was broken up and a volvulus was found. When this twist was undone, the abdominal cavity was filled with a solution of boroglycerid and this was left in the abdomen. A drainage-tube was introduced and through it the same fluid was occasionally injected. Dr. Montgomery had an opportunity of operating upon this patient some two years later for ventral hernia. Remembering the previous operation, he expected to find many adhesions, but on opening the abdomen there was but one adhesion. This result shows how these cases will recover.

DR. ROBERTS added, with regard to Murphy's button, that he had often had it with him in operating, but he had never yet used one because he had thus far always decided to use suturing, and possibly because he did not like to complicate things. In the case mentioned, in which he did a resection and end-to-end union, he thought very strongly of putting in a Murphy button, but did not because the old adhesions would have compelled the button to travel a very tortuous course and there was danger of its becoming entangled in the lumen of the intestines.

DR. HOWARD F. HANSELL presented "THE REPORT OF A CASE OF SUDDEN BLINDNESS FROM NASAL DISEASE."

[See page 101.]

DISCUSSION.

DR. B. A. RANDALL said that he had seen several cases something like that reported, but they are certainly unusual and raise a very difficult problem. The sinus-inflammation theory is the best to account for some of the symptoms; and the hemianopsia could possibly be explained by the retinal edema.

DR. HANSELL said that, up to the present time, the boy had regained light-perception in the temporal parts of the retinæ, but the central fields, in which vision was lost from the beginning, were still blind. He agreed that the prognosis was unfavorable.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2056. SATURDAY, AUGUST 1, 1896. VOL. LXXV—No. 5

ORIGINAL ARTICLES.

CHLOROFORM NARCOSIS.*

FLOY McEWEN,† A.B., M.D., NEWARK, N. J.

The administration of chloroform by inhalation imposes upon the operating surgeon and the anesthetist the gravest responsibility. Its dangers begin with the first inhalation and do not end until the patient is wholly from under its influence.

A person under the influence of chloroform vapor is a source of anxiety from beginning to end; nor, indeed, do its dangers cease with the withdrawal of the drug.

It is a matter of common observation that a patient may be removed from the operating table in apparently good condition and word be brought from the ward a few minutes later that the patient is either dying or is dead.

In the light of statistics and of competent surgical experience, it must be conceded that the administration of chloroform by inhalation is wholly unjustifiable except in the light of some special consideration or where the exhibition of ether would jeopardize either the life or the health of the patient. Confining ourselves to the consideration of those cases in which the exhibition of nitrous oxide gas or of local anesthesia would be inexpedient, it must be admitted that cases will from time to time present themselves in which ether is either contraindicated or cannot be obtained, and it then becomes a matter of no small importance how chloroform shall be administered with the minimum amount of danger and the minimum risk. While we are constantly widening the application of ether, it will be generally conceded at the present time that chloroform is the preferable anesthetic in the following conditions:

(a) Chronic endarteritis occurring in those advanced in years.

(b) Chronic inflammatory affections of the respiratory tract and advanced pulmonary disease. Of course, acute catarrhal affections of the respiratory tract are equally forbidding to the use of ether, but a patient suffering from such an acute inflammation should, unless delay were hazardous, be cured of

*Read before the New Jersey State Medical Society.

†Assistant Surgeon and Senior Anesthetist to St. Michael's Hospital; Anesthetist to the Home for Crippled Children; Senior Assistant Surgeon, Dermatological Clinic.

his catarrhal condition before being subjected to any operative interference requiring a general anesthetic.

*(c) Renal disease, acute or chronic.

(d) When there is a history of ether having been taken badly at some former operation.

(e) Chronic alcoholism.

(f) Those cases in which the galvanic cautery is to be used in the neighborhood of the mouth or ear passages.

(g) Cerebral tumors or abscess.

(h) In old age.

(i) In puerperal eclampsia where an immediate effect is required.

(j) Night operations with artificial light.

(k) During labor.

(l) In military and naval practice, on the field of battle, its use seems to be at times justified, although strongly contraindicated.

The following conditions are looked upon as peculiarly unsuited for its administration, if not, indeed, prohibitive.

(a) Surgical shock.

(b) Epilepsy.

(c) Spina bifida and hydrocephalus (Morton).

(d) Those having a tendency to syncope.

(e) Fatty heart and chronic valvular disease.

(f) Acute alcoholism: Delirium tremens (Sansom).

(g) Fatty liver.

(h) It is unsafe to give chloroform to a patient already under the influence of chloral, whether in obstetrical practice or otherwise.

PREPARATION OF THE PATIENT AND PRELIMINARIES TO BE ATTENDED TO BEFORE COMMENCING ANESTHESIA.

In all grave surgical procedures the thing to be feared most is shock. It is important then that the strength of the patient be conserved in every possible way. The dread and alarm which all experience who are about to undergo an operation should be allayed. In every case where it is possible, the anesthetist should make it a point to quietly talk with his patient a day or two before the operation, gain his confidence, get in a good word for the skill of the attending surgeon, and in every way inspire him with confidence as to the favorable outcome of the operation. For whatever may be feared or told to the other members of the family, nothing but hopes of success should be held out to the patient himself. If this rule were more generally followed, it would be found that the stage of excitement would be frequently avoided and the shock to the patient materially diminished. Too often in private practice the anesthetist is brought in by the attending surgeon at the very last moment, so that the above suggestion cannot be fully carried out, but a great deal may be done even at this late date by the exercise of ordinary gentleness and tact. Nor is surgical shock our only concern. Psychical shock is to be prevented in every way. There must be no instruments in sight, no rough handling of the patient, no loud talking within his hearing, no feverish haste to bowl the patient over. Everything should be done decently and in order.

Slocum (*Philadelphia Polyclinic*, December, 1892) strikes the keynote of this in a masterly way. He says we should give our patients every possible legitimate assurance of success, strengthen their confidence, allay their fears. If they hold to strong, odd fancies, yield to them as far so their safety permits. Reason with caprices, but treat superstitions with respect. Many patients look forward with terror to an operation on Friday. When this is the case change the date. To know the bias of a patient's mind and to allay his apprehension is a long step toward preventing shock.

Wherever possible, operations should be performed in the forenoon. The advantages of this practice are many:

It saves the patient several hours of anxiety and nervous apprehension.

It avoids the long fast which must otherwise ensue.

There is a life and buoyancy about the morning hours that best fit the patient to resist the depression that so frequently attends operative interference and general anesthesia.

The surgeon of fine feeling will anesthetize his patient in his ordinary dress and change to his operating gown after the patient has become unconscious and

*Investigations may, in the near future, show ether to be the proper drug in these affections.

thus avoid exciting needless alarm. The case having been decided upon as one for the use of chloroform, the patient is to receive a dose of some mild laxative medicine the night before the day set for the operation. Hypercatharsis is unnecessary, is prejudicial to the best interests of the patient, and is to be avoided. Indeed, if the bowels are regular, an injection on the morning of the appointed day may often be found all that is necessary.

The urine is to be examined in all cases where this is possible. Urine that is over twenty-four hours old cannot be relied upon for clinical purposes.

In examining urine we ascertain the specific gravity and test for the presence of albumin and sugar. As it is not unusual to find sugar in perfectly normal urine shortly after a meal, the best urine for examination is that passed in the morning the first thing after rising.

As albumin is found in all catarrhal affections of the genito-urinary tract, attended with the production of pus, the chemical examination should be supplemented by a microscopical examination for casts.

The presence of sugar contraindicates any operative interference.

Grave renal disease adds to the dangers of the anesthetic.

The lung and heart are to be examined in all cases as a matter of routine. If the heart is found sound this should be turned to the patient's advantage. Shock, extreme weakness, or the presence of organic cardiac disease (fatty heart or endocarditis) calls for the substitution of ether at once.

Enquiries are next made as to the presence of foreign bodies in the mouth —false teeth, dental regulating plates, chewing gum, tobacco. These are to be removed if found.

In children we look for loose temporary teeth, so as to be on our guard in case the use of tongue forceps becomes necessary. Any rough handling might very well dislodge one of the teeth and cause choking.

The principal meal immediately preceding the operation should be omitted, but three hours before the time set the patient should receive a large cup of strong beef tea. To carry a patient into the operating room exhausted by a long fast is needless, inconsiderate, and contrary to all principles of practice. Children especially bear badly the deprivation of food.

Mental emotions have a marked influence on digestion. The ingestion of food while laboring under strong emotional excitement is apt to lead to the gravest disorders of stomach digestion. The common practice of giving milk and milk punches shortly before an operation is to be condemned. Anxiety, apprehension, and alarm are present in almost every case. As a result, the functions of the stomach cease entirely, and food of every description requiring stomach digestion is contraindicated. Milk is a food that requires digestion, and is to be placed among the prohibitive articles. Nothing is to be allowed but beef tea, beef juice, coffee, or sherry.

It is a matter of routine with many operators to precede the administration of the anesthetic with a hypodermic injection of morphia, gr. $\frac{1}{8}$, and atropia, gr. $\frac{1}{150}$. The advantages claimed are that the resulting unconsciousness is more regular and of longer duration, although much less anesthetic is required; that it lessens the initial excitement, diminishes the nausea, limits the amount of anesthetic, and hence the chance of poisoning. More lately (*Gazette Médicale de Paris*, Oct. 13, 1894), M. Paul Langlois and M. G. Maurange have urged the claims of morphia hydrochlorate, gr. $\frac{1}{8}$, and neutral sulphate of spartime, gr. $\frac{1}{4}$. The exhibition of this combination in 148 operations gave flattering results, the anesthetization closing without accident and without cardiac disorder. On the other hand, it is not uncommon for many practitioners to begin anesthetization without any preparatory medicinal treatment. Should these drugs be used, however, they should be administered twenty minutes before the patient is brought to the operating room.

In cases of extreme feebleness, or where the operation is likely to be an unusually long or severe one, it is well to throw ℥i of brandy, well diluted with milk, into the rectum just before commencing the operation.

It is well to remember that the sphincters will occasionally relax during primary anesthesia and provision

made accordingly to protect furnishings and clothes when these are in a position to be soiled.

Before anesthetization is begun the anesthetist should have within easy reach:

Two inhalers.

A mouth gag.

A pair of tongue forceps.

A towel to wipe away the excessive mucous secretions.

Three or four sponge holders armed with sponges.

An ether case.

℥viii of Squibb's stronger ether for substitution in case chloroform acts badly.

Hypodermatic tablets of nitroglycerin, gr. $\frac{1}{100}$, and strychnia nitrate, gr. $\frac{1}{30}$.

A large flexible catheter to carry hot water into the rectum.

A silver catheter, which may be used as an intubation tube.

Brandy or whiskey.

Vaseline or cold cream for the face.

A rectal syringe.

Hot water (105° F.) and

A hypodermic syringe, *not in his pocket, but filled and ready for use.*

Electricity and oxygen, although of very doubtful utility, should, if possible, be at hand in order to protect oneself against lay and professional criticism.

In the case of epileptics, a small gag should be placed between the teeth in order to protect the patient's tongue against possible injury in case of a seizure occurring during the primary stage.

Finally, the chloroform should be pure, that is, it should be free from oily matter, muriatic acid, and uncombined chlorine.

THE ADMINISTRATION OF CHLOROFORM BY INHALATION.

It has been demonstrated by Snow that when twelve minims of chloroform circulate in the blood they produce primary anesthesia. When eighteen minims of chloroform circulate in the blood they produce surgical narcosis. When thirty-six minims of chloroform circulate in the blood they produce paralysis of the medullary centres and death.

Again, one minim of chloroform is equal to one cubic inch of chloroform vapor, and it requires seven cubic inches of air to take up one cubic inch of chloroform vapor, hence thirty-six minims of chloroform, or a fatal dose, produces 37.5 cubic inches of chloroform vapor, which requires 262 cubic inches of air to hold it.

Now, allowing twenty cubic inches as the amount of tidal air, it would require fifteen respiratory acts to take in the 262 cubic inches of vapor thus formed. If a vapor of this strength were constantly inhaled it would be simply a question of time when its residual and reserve air would become saturated, and as 200 cubic inches represents the amount of air constantly present in the lungs, this amount would contain the vapor of thirty minims of chloroform. Allowing that only one-half of this quantity is absorbed, we would have eighteen minims (the amount already circulating in the blood) plus fifteen minims, *i. e.*, one-half the quantity present in the lungs, or, altogether, thirty-three minims of chloroform vapor, quite enough to produce paralysis of the medullary centres (20 m., Taylor, *Med. Jurisprudence*, 1892, p. 197.

Bearing these facts constantly in mind, and with the clinical knowledge which the examination of the urine and the patient has given us, we lightly smear the patient's face with cold cream and commence anesthetization by pouring a measured quantity (10 m) of chloroform upon the inhaler, and holding it near (not on) the patient's face, he is told to breathe quietly and gently.

The patient should lie perfectly flat and preferably on the left side. There can be little question that the position of the patient has a great deal to do with the favorable or unfavorable action of the anesthetic. Indeed, Burton, after a large series of observations, is forced to conclude that the difference in the condition of the pulse and respiration of patients chloroformed in the dorsal and lateral positions has been so striking as to force on one the lesson of placing every patient, where it is possible, on the left side. Chloroform should never be administered in the standing or sitting postures. At times circumstances may make it necessary to commence anesthetization in the semiprone position, but it is a procedure

that is always to be deplored, and is not unattended with danger.

The clothing about the neck, chest, and abdomen should be absolutely loose, so that respiration may be free and the movements of the chest and abdomen unhampered. Corsets, if worn, should be removed.

The anesthetic at first should be administered very gradually, and every effort made to lessen the initial excitement.

If a patient is brought to insensibility, struggling, resisting, and protesting, he will prove a source of trouble throughout the operation. Anesthetization cannot be properly effected if loud conversation is to be indulged in, or if the patient is to be constantly interfered with by examinations, handling, and washing. One case of this kind will forcibly illustrate the importance of absolute quiet and repose for the patient, until he is completely under the influence of the anesthetic. It has been a matter of common observation with the writer that all "neck sores" (patients suffering from tumors or enlargements about the neck) take anesthetics badly. It is possible that the interference with the circulation produced by the pressure of these growths on the cervical vessels may be an explanation of this. The venous congestion already present is naturally increased by the anesthetic, and this venous stasis leads to cerebral engorgement with consequent respiratory and circulatory embarrassment, hence, in this class of cases the stage of excitment should be reduced to a minimum, and, if possible, avoided entirely. While this is a matter of concern in all cases, it becomes a matter of most serious import in patients past middle life suffering from atheromatous arteries where this great increase of vascular tension may very well lead to rupture of one of the cerebral vessels, with consequent paralysis and death.

Many deaths have occurred from chloroform during the stage of excitement. Nothing can possibly be gained by washing and examining the patient before he is "under." Indeed, much time is lost by this meddlesome interference. Particularly is this the case in bladder and rectal cases, where any examination or manipulation of these parts at once causes the patient to strain. As a result, he promptly stops breathing, gets blue, commences to struggle, and the anesthetist is brought to a standstill. Not only is further progress out of the question, but the little that has been gained is lost.

The hands should not be held, as this provokes resistance and excites needless alarm.

From the commencement to the close, without intermission, the anesthetist's finger is to be kept on the temporal or facial artery, the pupil to be frequently inspected, the patient's color watched, and the respiration listened to constantly. This last is all important, and as the breathing is often very shallow, no loud talking within hearing of the patient should be permitted during the operation or immediately before. These four points should receive the attention of the anesthetist from beginning to close without interruption.

Should the patient struggle and it become necessary to hold him, especial care should be taken that no pressure is exerted against the abdomen, for as respiration is largely abdominal under anesthesia it is easily possible for it to be brought to a standstill.

The anesthetist should *know* that the patient is breathing. Spasmodic movements of the diaphragm are no index that air is entering the lungs.

The anesthetist should be impressed with a profound sense of his responsibility, for on this condition alone can the administration of chloroform be undertaken with anything like safety.

A study of the pupil changes is very important. A pupil well contracted down is a sign of safety, while a pupil in wide dilatation denotes approaching danger and is to be met by the prompt withdrawal of the anesthetic. It being constantly borne in mind that atmospheric air is the natural antidote to chloroform, but it must be pure air, not air that is charged with carbolic acid and chloroform vapor. Hence, in an emergency, one of the first things to do is to throw open the windows and clear the air as rapidly as possible.

Danesi (*Boll d'oenli* xv–18–4) insists that the pupillary reaction is the safest guide in the administration of chloro-

form, although it is denied by many authorities.

The patient's color gives no valuable information. An ashen or livid hue is a bad sign; much worse, indeed, when due to failure of the circulation than when it can be accounted for by respiratory embarrassment.

The addition of fresh chloroform to the inhaler is to be gauged by the odor which it yields. If no odor of chloroform is to be detected on the inhaler it is proper to add a fresh quantity, always using the minimum amount that will keep the patient insensible, and judging of this by his pulse, his color, his pupil, and respiration.

It has been the custom of the writer for the past two years to place his greatest reliance upon the color of the patient's ears. The circulation in these members is peculiarly feeble and any embarrassment of circulation will show itself here at the very earliest moment. A red or pink ear is a sure index of well being, while an ear that is ashen or livid is a certain sign of impending danger or of danger that is already present.

Complete muscular relaxation and loss of corneal reflex are an index that insensibility is complete and that the operator may proceed. The degree of insensibility required must vary with the patient and the nature of the operation, but in general terms the least will be required in uterine and the most in rectal operations.

In testing the corneal reflex the finger should never touch the eye-ball. This too common practice is coarse and not fine. All that is necessary is to lightly brush the cilia with the finger. Another rather delicate and ingenious method is to lightly blow against the eye-ball.

During the operation it will be found practicable from time to time to remove the inhaler altogether, and this should be done.

It is evident that the deeper and quicker the respirations the larger will be the quantity of chloroform vapor carried into the lungs. If a patient only partially anesthetized suddenly stops breathing and strains, the rapidity of the absorption of chloroform vapor into the lungs is increased. If the circulation of blood through the lungs, as shown by a dusky or congested face, is exceptionally slow, the opportunity for absorption will be again increased. It is perfectly evident that any one or all three of these conditions being present, there is more than ordinary danger that blood may be carried to the heart overcharged with chloroform vapor, and the most alarming symptoms very well supervene.

During anesthesia it is well to keep the patient's head a little extended.

Chloroform should be added to the inhaler with circumspection, not more than ten or fifteen drops being added at a time. The anesthetist must be the sole judge of the anesthetics, judging of this by the patient's color, respiration, pupil, and pulse, and the "A little more chloroform, doctor," of the operator is not to be acceded to too readily.

Should it become necessary from any cause to change to ether, sufficient time should be allowed to elapse for the chloroform vapor to be exhaled from the patient's pharynx.

The patient is to be kept as quiet as the nature of the operation will permit. Any shaking-up of a patient under the influence of chloroform is a serious thing. Under no circumstances can it be justified to raise the patient to the sitting posture or to suddenly change his position. For at least an hour after anesthesia he is to be kept in the recumbent position; after ether narcosis this is not so necessary.

The administration of chloroform should be carried on evenly. To administer three or four minims for some time and then suddenly crowd 3i of the anesthetic upon the patient is fraught with danger.

Should the condition of the patient suddenly become poor, his color bad, and pulse feeble, he should be immediately inverted and a hypodermic injection of strychnia nitrate, gr. $\frac{1}{20}$–$\frac{1}{10}$, be given at once. This may be continued every four hours for days, or every half hour or hour till the pulse is strengthened and slowed.

The amount of chloroform necessary to induce anesthesia, and the quantity required to complete any operation will vary with the individual and in the same individual under different circumstances. The following table, which

has been compiled from personal observations, will indicate some general truths:

The shortest time taken to induce surgical anesthesia by chloroform was seven minutes; the longest time, twenty-one minutes; the average time, 12 minutes.

The smallest quantity required to induce surgical anesthesia was 3i; the largest quantity, 3iii, m xl; the average quantity, 3ii, m iv.

The longest time a patient was kept under the influence of chloroform was one hour and thirty minutes.

The largest quantity of chloroform used at any one time was 3i 3i.

The oldest patient was seventy-four years of age; the youngest, five weeks.

No vomiting occurred during the administration of the anesthetic in any of the cases.

Vomiting succeeded the chloroformization in two cases.

Most alarming symptoms of respiratory and circulatory collapse occurred in three cases, all children.

Ether was substituted in two cases. One of the worst cases was in a child five years old that had taken chloroform well for a former operation.

The points I would wish to emphasize are:

(1) That chloroform is a dangerous drug.

(2) That its dangers can be reduced to a minimum only by the most scrupulous attention and conscientious care on the part of the anesthetist, and

(3) That to give chloroform properly is all that one person can possibly do, and that it is not a time to assist or to engage in conversation with bystanders, or to watch operations in order to familiarize oneself with the steps of scientific procedure.

ERYTHEMATOUS ATROPHY OF THE SKIN OF THE FACE OBSERVED IN PECULIAR CIRCINATE AND OBLONG PATCHES.

J. ABBOTT CANTRELL,* M.D., PHILADELPHIA, PA.

Atrophic disturbances attacking the face are alike both varied and disfiguring and the record of any one dissimilar condition is appreciated to the literature of this most varied subject. In reporting a fact of this occurrence it is wise not to lose sight of the point that diseases at the present day are not likely to be unique, but a thorough search through the papers of either recent or remote writers will establish the fact that a condition somewhat similar had been witnessed at some place upon this great globe. Therefore, the occurrence that is here recorded is not of positive uniqueness but one or two more conditions resembling it have been referred to and the closeness of likeness of the one to the other is so marked that a slight reference to the records of these cases will assist in an elucidation of the positive facts concerning the abnormalities. As it may be found that in the one instance certain symptoms were present in the other we have presented to our view different manifestations. Studying all that may have been said by this or that writer and connecting facts together we may at last arrive at some conclusion that the diseases are similar but have shown in different stages of their process lesions representing that part of the disease. In one they may have been seen at a time when active or passive inflammation may have been current while in the other instance the inflammatory symptoms may have entirely subsided or have passed from view entirely. So it behooves us to study every manifestation to know exactly the disease that may confront us.

The patient, a young lady of twenty-six years, appeared at the Philadelphia Polyclinic October 9, 1894, and stated that the condition for which she sought advice was of four years duration. She was born in Londonderry, County Done-

*Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; Dermatologist to the Philadelphia and Frederick Douglass Memorial Hospitals, Philadelphia.

gal, Ireland. Her family history does not present a cause, as her mother was living at the age of sixty-five in good health while her father had died at fifty-seven of paralysis after several years illness. She had two brothers and one sister living in good health and aged respectively thirty-three, twenty-nine and thirty-one. One sister died at the age of 18 from the effects of a burn. She had two maternal aunts one of whom was living at the age of sixty-seven while the other had died during confinement at the age of twenty-five years. One maternal uncle was living at seventy years of age enjoying good health while another had died at thirty of what she supposed was dropsy. There were no paternal uncles, although one paternal aunt was living in excellent health at an advanced age, one having died at fifty-three of some unknown malady.

Patient stated that when a child she had an abscess on the right side of the jaw, which shows a cicatrix one and one-half inches by a like diameter. Otherwise she had had excellent health until four years ago, when the present disease began.

The disease for which she sought advice was entirely upon the face, being made up of circinate or oblong areas scattered at irregular intervals over the affected portion, and consisting of fourteen lesions in all. Enumerating them according to their age, which also gave an impression of their size, because the older ones had grown according to their life duration, the first was seen immediately below the left eye, at the junction of the nose and face, while a similar one was found correspondingly upon the right cheek, both having a horizontal diameter of about one inch and a vertical of three-quarters, thus being almost circinate or rounded. Following these we noted the appearance of two lesions directly over the right eye, while next in order an isolated spot was found on the left fronto-malar region. Two others which had selected the mucous membrane of the upper lip were presented, but the patient had no knowledge of their duration, while seven others, varying from three-quarters to one inch in diameter, were scattered over the cheeks and forehead.

In describing those upon the outer integument, I found, upon close examination, the lesions had distinct and semi-distinct edges. At points some of them were apparently on a level with the surrounding normal skin, while others were raised slightly, still others being depressed. Those lesions which were flattened showed exactly the same condition upon their superficial covering as those which were raised. They were somewhat of a pinkish red in color, although some of them showed slight variations in color between a light and dark shade. At times all of the lesions would puff up, and, feeling somewhat stiff, resembled the appearances found in urticarial wheals, with the exception that the color retained the shade mentioned.

The two lesions situated upon the mucous surface of the upper lip were somewhat flabby and felt soft to the touch, hanging down somewhat in folds showing slight depressions and elevations at or near the point where they were joined to the outer integument. The superficies of these two lesions showed nothing more than the mucous lining of the mouth with somewhat of a heightened color—possibly on close inspection with a lens we could discover slight ramifications or arborations of very small capillaries.

The lesions—some of which were circinate and others oblong, while others were more irregular—had, as above stated, the distinct border, although they were flat, depressed, or slightly raised above the surrounding healthy skin, but nevertheless distinct, the border being made up apparently of light-ish brown pigmentations, which were in some instances one line in width, in others not so wide. The central portion of one or two lesions looked somewhat puffed and showed the lines distinctly, while one of the larger, which was situated on the right cheek, gave an impression of papillary enlargements.

Through the diseased area the ramifications or arborations of the superficial capillaries could be as distinctly seen as upon the summit of the lip lesions. The lesions at other points showed exactly the same appearance with the exception that the pigmentation surrounding them and the color of the lesions themselves

were more marked. The capillary enlargements could readily be seen with a lens while the follicular openings were unusually large. Most of the lesions showed, what was only apparent to the eye, a somewhat moistened surface, but upon passing the finger across this was not determined. The summit of the lesions was rather glossy.

Shortly after entering a heated atmosphere the lesions would all puff up and looked as if edematous but this was not apparent to the touch.

A similar case to this was described by G. Theirbeirge (*Atrophodermie erythemateuse en plaques excentrique, La Semaine Medicale*, Paris, December 16, 1891), it having been witnessed in a young lady of twenty-four years, who for almost two years had a red plaque on the right cheek, the size of a 10-centimes piece, almost perfectly circular in shape and depressed in comparison to surrounding parts. This spot was of a pale red color, and disappeared on slightly firm pressure. It had less resistance to pressure than surrounding healthy parts. The skin showed nothing like cicatricies. On the left cheek and a little in front of the ear there was present a small spot similar in character, the color disappeared almost completely on pressure, which left a slate-colored tint. In the absence of any traces of inflammation or neoplasm, it was impossible to recognise any other condition than a cutaneous atrophy, differing from all other conditions where atrophy has taken place. This case also spread from the center, it having enlarged as time went by.

Thus it can be seen that these two cases are alike from the same category and with the different manifestations I am perfectly assured that they are certainly similar. Of course the lesions occupying the lips in my case differ from those seen upon other parts only in degree. It is rather unfortunate that in these cases no microscopical examinations were made, and also that in my case I was alike unable to get a photograph of the condition, owing to the timidity of the patient.

TREATMENT OF TUBERCULAR AND OTHER DISEASES BY THE PHENOL SERIES.

M. F. McTAGGART, M.D., Napa, California.

In a contribution to the *Therapeutic Gazette*, November number, 1895, page 728, under the heading, "Therapeutics of Consumption and Tuberculosis in General," I defined a course of treatment which consisted largely of phenol in some of its forms. Unfortunately, since that publication, a somewhat noted physician of New York has ascribed virtues to this drug which are so overdrawn that the consequent failure of realization from its use will tend to depreciate its merits. He adds pilocarpin to pure phenol by "a complex chemical process," and presents the preparation to the medical profession under the name of "Aseptolin–Edson." It bears the colors of a specific for the cure of tuberculosis. In this relation I am obliged to say it is extremely disappointing and misleading, which an impartial test of the "new compound" soon verifies. However valuable it may prove in other affections, my experience with it has convinced me that it possesses no superior merits over its derivatives in the treatment of tuberculosis.

To rely upon "Aseptolin–Edson" for the cure of a malady so multiple in its forms and so varied in its requirements would be to abandon the more rational methods of cure, to invite disaster instead of success. It is destined to act merely as a spoke in the wheel, and as such it should have been used instead of constituting the wheel itself. There is no doubt that the phenol group has a larger field than is as yet developed. Recent investigations confirm us in this conclusion, and the wider the scope of

this drug, the more it emphasizes the value of the treatment we put forward. I gave a set of formula and specified conditions that involved their respective uses, urging that they be used by the mouth, hypodermatically, intrapulmonary, and per enema. They comprised guaiacol, salol and thymol with glymol. Excellent results followed their employment. Auxilliaries, of course, were made subservient to their agency; but these were the chief factor. Many cures were effected; at least they have stood the test of several years. I claimed none but those who attested immunity from the disease six to eight years after the treatment as published in the *Gazette*. It was stated in that article that I was making other tests, and the research gives proof that we have a very important element for the treatment of germ disease in hydronaphthol.

Finding it impossible to impregnate the system with so large a percentage of a bacteriocide as was desirable with the drugs used, I had recourse to this chemical which in potency is from fourteen to fifteen times the germicidal strength of pure phenol. Combining it with guaiacol, and thymol, we have an exceedingly efficacious combination, thus securing a co-operative potency, while each ingredient maintains its respective physiological influence. It is a combination capable of producing the most gratifying results, inasmuch as it proves applicable to a very extended range. It is not only effective in many forms and conditions of tuberculosis; but in other diseases and where its use is indicated it accomplishes so much, and so far exceeds in rapidity of action and permanency of effect anything I have hitherto employed, that its value seems incomparable.

Each ingredient is a prompt and energetic germicide. They have not the baneful tendency to destroy or disorganize the blood corpuscle as have carbolic acid and creasote. The hydronapthol has proved beneficial in anemia. It is a homologue of the phenol groupe, and possessed of much of their virtue, and but little or none of their acridity. It is a powerful preservative and with its marvelous potency and preservative properties the utility of its concerted action in tuberculous diseases is obviously important.

By a simple process of dissolving the drugs, they are readily blended, thus making a mixture that is perfectly homogeneous, friendly to the system, and one that insures exemption from abscess after the use of the needle. The chief care necessary to its production is the procurement of the best drugs, or drugs from the best makers.

Any physician can prepare it for himself. It should be given by the mouth, per enema, and hypodermatically, as emergencies urge, or as conditions permit. It is generally a matter of but a week or two after its first employment, before fever, night-sweats, diarrhea and all concomitant exacerbations are entirely absent. There soon occurs an abatement of the cough, a diminution of expectoration and a passing to normal of the temperature. A few weeks frequently suffice to evince a profound change in the system for the better, and in every manner to show improvement. The patients rapidly gain flesh, and it requires but a few months in even severe cases to effect an apparent cure.

Of course, with these cases, as with those formally reported, time must elapse, thorough tests must be made, causative influences must be considered, and deductions must be drawn from pathological tendencies before conclusions can be verified. Though possessing a wide range, it is by no means a medicine to be used indiscriminately. The needs of each formula and of each ingredient must be judiciously differentiated, and those employed that are most fitted for the condition demanding them, and not such as are contraindicated.

It is not to be apprehended that the employment of these drugs is to exclude all other measures. Emergencies may arise, and critical conditions may be preserved, to say nothing of idiosyncracies and other abnormalities of constitution that will throw the physician entirely upon his own resources, despite the ablest presentation of treatments for this disease. What we would urge, is that the remedies should be specifically used with the nicest distinction as to their indications, and the point we would gain, is to make feasible and intelligent use of them. What we here present is simply an indispensable auxilliary to the line of treatment we have

urged in the use of the ingredients mentioned, and to test the value of this method of using the drugs that course must be strictly carried out. No just conclusion, as to its merits, can be formed without having recourse to its potentiality. Formulæ are as follows:

℞

Guaiacol	gr. iiv
Hydronapthol	gr. iii
Thymol	gr. ii
Oleum Amygdal.	ʒi

M. Sig.: To be taken with milk or olive oil.

℞

Guaiacol	15 per cent.
Hydronaphthol	3 per cent.
Oleum Amygdal.	100 per cent.

M. Sig.: Hypodermatically.

More of course should be prepared at a time, and when dissolved, filtered through charcoal under dry heat. From one to two drams may be injected at one seance, into two or more sites, the fatty portions of the abdomen, or other fleshy parts of the body. Entering the circulation in this manner, we should remember the dose is equivalent in effect, to a much larger by the stomach, meantime, this organ must not be forgotten.

For anemic and emaciated subjects, we administer in addition, olive oil subcutaneously. The oil should be sterilized and always of the best quality. Here in California, where the olive oil is cultivated in abundance, the oil can be procured in its purity. It is somewhat doubtful if the imported article can be relied upon. Where there is doubt, the process should be abandoned or supplanted with artificial serum.

For intrapulmonary injections, the strength till tolerance be established, should be one-half of that of the formula and the vehicle invariably almond oil. Glymol would have been our preference, but it is incompatible with hydronaphthol. There need be no apprehensions as to the results of intrapulmonary injections in suitable cases—*i. e.*—if conditions demand it. On the contrary, the happiest response very soon follows. If there be a cavity, hepatization, a tubercular deposit, or a condition in any way favoring the spread or propagation of bacteria, provided active congestion, inflammation, atalectasis and pus, are absent, the lung should be invaded at once by the germicide, as near the site of their location as can be diagnosed, or as anatomical structure will admit.

Patients with bacteria nesting in so vital a part, whose conditions seem utterly hopeless or manifest but slight improvement after the use of the needle elsewhere, will gain rapidly by reaching the bacilli direct. What is the result of ptomaines in uterus, but puerperal fever or septicemia? Eliminate the ptomaines or their micro-organisms and the patient's recovery is at once assured.

In these days of progressive therapeutics, the most radical measures are resorted to for this purpose, even to dilatation, curettage and flushings of the womb with antiseptics so soon as the mischief is recognized. Arrest the ravages of the bacilli in the lung by despoiling the seat of their habitat, and you abridge the process of their destruction, as well as the consequent course of medication, to almost a phenomenal degree. We incline to the belief, that after a few such treatments there is considerable immunity from contagion, and almost absolute from infection. In gangrene of the lung, by adding thymol, this gives incomparably, the best results of anything we have ever read of or used. The cavity is entered by the needle through the intercostal space that sights the affected parts or in close proximity. The process should be a very slow one.

The effect is almost magical. The temperature falls. The sputa are at once changed in character; its putridity and fetidity distinctly evinces the efficacy of the drugs by giving place to their odor, and an immediate improvement of all the symptoms follow. By substituting resorcin for the thymol, and using the medicines by all the media here mentioned, with respect to the proper dosage for each method, enteric fever, malaria, pneumonia, la-grippe, bronchitis, and tubercular peritonitis yield to the agents with a promptness that proves the treatment so vastly superior to the older methods of dealing with these conditions that one is led to wonder that the admixture had not been brought into requisition long ago.

Its province for good does not stop here. It gives great promise in various forms of cancer injected into and

around its base, but a few days suffice to establish beyond a doubt that it possesses a remarkably curative influence. We have been dealing with cancer for many years, but not until this use of these drugs and similar agents could we hope for much success. I have not, however, satisfied myself as to the remedies most effective and as to the details and technique of treating this malady, but trust soon to be in a position to report upon it.

SOME THERAPEUTIC USES OF GUAIACOL.*

J. M. ANDERS, M.D., Ph.D., LL.D., PHILADELPHIA.

That guaiacol is a valuable medicinal agent is allowed by all observers who have employed it in suitable cases. The complaints in which it is serviceable are divisible into three groups, which will be considered separately.

Group 1. *Febrile affections.* These are acute and chronic. Of the acute febrile diseases in which it has been used, typhoid fever and the pneumonias —lobar and lobular—stand foremost. It is an antipyretic when applied to the skin in proper amount, and according to the experiences of some of the physicians who have thus used it most extensively it is practically free from unfavorable effects.

Dr. H. G. McCormick has applied guaiacol more than eight hundred times in typhoid fever, with uniformly good results. He has occasionally observed chills, but these were noted when the temperature, as the result of a topical application of guaiacol, dropped below 100° Fahrenheit, and they were not followed by increased fever nor increased weakness. The occurrence of rigors is, according to this observer, a certain indication that the dose has been too large, and hence should be lessened immediately.

On the other hand, while I have used guaiacol in but two cases of typhoid fever, in one of these its application was attended by rigors, both on the thirteenth and sixteenth days of the affection, followed by a rapid rise of temperature to a higher level than the previous maximum temperature. Rosenthal, of Philadelphia, has observed a similar effect in a case of typhoid fever. Thayer has also reported marked chills from its use. Still other observers have noted a decided weakening effect when guaiacol was employed as an antithermic agent. But though guaiacol does not possess the obvious and numerous advantages for the typhoid patient that the Brandt method does, it may very properly be employed in cases in which the cold baths cannot be instituted on account of the existence of unsurmountable prejudices or of contraindications to the latter, such as intestinal hemorrhage, acute nephritis, etc.

Its internal administration in the form of the carbonate of guaiacol in typhoid fever is to be highly recommended, since it reaches the intestinal canal before it is disassociated or re-absorbed. I have had no personal experience with guaiacol in the treatment of typhoid fever, but have used it in acute and chronic forms of intestinal catarrh, accompanied by fermentative processes, with highly excellent results.

In a paper previously published may be found the report of a case of broncho-pneumonia in which this antipyretic was employed externally (in doses of 3ss), the patient making a rapid recovery. The applications of the remedy were not followed by so marked a reduction of temperature as in the cases of typhoid. More recently I have used guaiacol in two additional cases of broncho-pneumonia with like results. It would appear from my own observations that fever dependent upon local inflammation is to a less extent reduced

* Read before Pennsylvania State Medical Society, April, 1896.

by guaiacol than when due to more general causes.

Pulmonary tuberculosis is the one chronic febrile disease in which guaiacol has been frequently employed.

J. S. Cohen has noted a striking reduction of temperature following its external use in pulmonary tuberculosis. I have employed it in a few instances of this disease quite recently, and while it has reduced the temperature decidedly, the profuse sweatings and occasional debilitating effects induced by the remedy have led me to abandon its employment in this affection.

Group 2. The second division of cases are the non-febrile. These embrace chiefly myalgia and neuralgia. As stated in my former paper, the local physiologic action of guaiacol is that of a decided sedative. Thus when *administered* internally it allays the irritability of the nerves terminating in the gastric mucosa. In the paper referred to there are reported cases of gastralgia successfully treated by guaiacol, given in doses of two to three minims, combined with glycerine. Later observations have confirmed the favorable opinion previously expressed as to the value of this agent in gastric hyperesthesia or irritation of the sensory nerves of the stomach when cautiously used.

Ferrard first employed this drug in sciatic and other forms of neuralgia (painting it over the course of the nerve, mixed with an equal part of glycerine).

Eight cases of neuralgia, in which guaiacol was the chief reliance, I have reported elsewhere. In three of these the drug was exhibited hypodermatically, the dose being one or two minims combined with ten minims of spirits of chloroform. I can now add the results obtained in four additional cases of neuralgia treated in this manner. To be brief, among them, two affected the supra-orbital branch of the fifth pair, one the intercostal nerves, and one the left sciatic nerve. In one of the cases of supra-orbital neuralgia there was a distinct history of antecedent malaria, hence quinine (gr. 20 daily) was exhibited *per orum*. Additionally, two minims of guaiacol and ten minims of chloroform were administered simultaneously at the point at which the nerve emerges from the deeper structures. This was repeated after twenty-four hours, when the pain ceased permanently. In the other case of this form of neuralgia no special causal factors (except perhaps exposure to cold and wet) could be ascertained. Here it was necessary to inject the guaiacol twice daily for two days before permanent relief was obtained.

The case of intercostal neuralgia in which this agent was employed arose in an anæmic and neurasthenic female. Besides the means—internal and sanitary—usually resorted to in such cases, guaiacol was applied externally during the first week, with the result of affording only temporary relief. Subsequently the guaiacol was exhibited hypodermatically. After the fourth puncture the pain yielded and has not since returned. In the case of sciatic neuralgia injections of guaiacol failed to cure, but greatly relieved the pain when administered at intervals of eight or ten hours.

Thus eleven out of twelve cases of neuralgia were successfully treated by the use of guaiacol. In one-half or six of the instances the drug was used hypodermatically, with five cures. In some of the latter the pain showed great obstinacy, and was not relieved by the external use of the drug, but yielded when it was injected subcutaneously.

Muscle pains due to cold, old sprains or rheumatism are also promptly relieved by the local use of guaiacol. To illustrate, I may be allowed to mention briefly a case of the sort thus treated:

Group 3. Other observers, as well as I, have employed guaiacol externally in acute, sub-acute and chronic forms of rheumatic inflammation, and whilst the remedy is powerful to relieve the pains occasioned by these conditions, it controls neither the inflammation nor the fever to any appreciable extent.

A few inferences may, with a view to facilitating a discussion of the subject of the therapy of guaiacol, be here stated and emphasized.

(1.) Guaiacol, when employed in febrile affections, effectually reduces the temperature, but it may cause objectionable effects, as profuse sweatings, and rigors, followed by high temperature.

(2.) In sub-febrile and afrebrile con-

ditions, it produces no noticeable lowering of temperature and no unpleasant effects, in my experience.

(3.) Guaiacol is an effective local analgesic, used in painful affections, being especially potent when administered hypodermatically.

(4.) Guaiacol is "powerless to control inflammatory processes, particularly when acute in character."

CURRENT LITERATURE CONDENSED.

Virginal and Senile Endometritis.[1]

The causes of chronic catarrhal endometritis in the married nullipara are usually insidious and slow in their action, like catarrhal affections of the other mucous membranes. Repeated exposure to cold, a general catarrhal tendency, and frequently recurring pelvic congestion, such as may be caused by excessive sexual intercourse, especially if means are employed to prevent conception, are factors, which sometimes combined with general anemia, will bring on the trouble. The text-books scarcely, if at all, refer to the catarral endometritis which attacks the unmarried female and the woman who has passed the climacteric. There has not appeared, to my knowledge, a single distinct communication on virginal endometritis as a special form of the disease. In a case which I myself reported in 1885, of inflammation of the cervix, with a tense hymen, the appearance of which closely simulated a laceration, it can readily be seen that I did not grasp the true nature of the trouble, attributing it to congenital defect rather than, as the eroded lips should have led me to do, to chronic endometritis.

In the case of a young woman of eighteen, for whom I was called on account of the unusual persistency and great amount of her normal period, a digital examination showed a tense hymeneal orifice, a very sharply anteflexed uterus and a slightly prolapsed and swollen left ovary, all else being normal. I recommended ice, rest, etc., but the hemorrhage increased greatly, and when I next saw the patient she was so anemic that I saw that further delay in active interference was out of the question. I then anesthetized her and thoroughly curetted the uterus.

The uterine cavity from external os to fundus was as widely dilated as though the girl had just undergone a miscarriage. The lips of the os were everted, eroded, and looked more like those of puerperal laceration than those of a virgin. The curette removed an abundant quantity of adenoid vegetations. All hemorrhage ceased after this treatment, but three months later a slight, persistent discharge of blood again occurred, not in any way weakening the patient, but simply annoying her. The external os was found to be still gaping, the lips eroded and the catarrhal condition of the endometrium undoubtedly persisting.

I advised a repetition of the curetting and the closure of the external os by sutures, but the family declined the operation and employed local treatment, giving this up after several months, and returning. I then found the erosion of the external os entirely healed, evidently in consequence of the local treatment, but the canal was as widely dilated as ever. I curetted the endometrium again and swabbed it out thoroughly with nitric acid, as a result of which treatment a complete cure was obtained, the canal not only becoming contracted to its normal dimensions, but the external os also resuming the conditions which one would expect to find in a virgin. I am confident that such cases occur far more frequently than is generally supposed.

I am under the impression that many of the cases of congenital fissure of the cervix which are reported are due to the gradual separation by the hypertrophied cervical mucosa, and that the apparent fissure of the cervix may have been the secondary condition.

The significance depends mainly upon the symptoms it produces, a profuse muco-purulent discharge, and in mar-

[1] Paul F. Munde, M.D., in the *American Journal of Obstetrics*, July, 1896.

ried nullipara sterility. Correct diagnosis can only be obtained by digital and even specular examination, even if the hymen be destroyed. The appearance is almost identical with a puerperal laceration of the second or even the third degree with everted and eroded lips. The tenacula will bring together the normal edges of the cervical lips precisely as can be done in a puerperal laceration.

The treatment consists in excising the hypertrophic mucous membrane of the cervical cavity, curetting the whole of the endometrium with the blunt and the cervical canal with the sharp instrument, and if the eversion is thought sufficient, of paring the lips and uniting them with silver sutures, precisely as is done for puerperal laceration. After treatment by intra-uterine alteratives may be necessary to effect a permanent cure as would be the case with ordinary endometritis.

Many women who have passed the change of life are subject to a certain extent to a disagreeable muco-serous, pungent discharge which in course of time brought about an erosion of the lips of the cervix, of the vaginal vault, and a chronic vulvo-vaginitis. I have treated such patients on the general principles of chronic endometritis. There being no bloody discharge in many of these cases, no suspicion of malignancy occurred. Here it seems that the pelvic organs having undergone a gradual atrophy after the menopause, the nutrition of the various tissues was insufficient, and in consequence there was a breaking-down of the cell elements in the uterine mucosa and in the vagina, and a serous discharge was the result.

Not only women who had passed the natural menopause, but also those in whom that condition had been artifically brought on by the removal of the uterine appendages, are subject to senile endometritis. One lady from whom I removed the appendages for double ovarain hematoma six years ago, and who menstruated quite regularly for two years afterward and then abruptly ceased doing so permanently, consulted me two years after the artificial menopause, for a bad case of endometritis with consequent vulvo-vaginitis which had come on gradually. The discharge was so profuse and so virulent that both vulvo-vaginal glands became infected and abscesses formed in them. Partly from this fact, and partly because the disease refused to yield to the treatment I usually employ for these cases, I suspected gonorrheal infection, but was forced to believe the husband's protestations of innocence. Local treatment gave only temporary relief, and only general tonic and hygienic remedies, eventually restored the genital mucous membranes to a healthy condition.

That the lips of the cervix, the vagina, and the vulva should become eroded in time by the discharge is of course perfectly natural. I have succeeded in curing the large majority of the simple cases in old women by frequent applications to the endometrium and vagina of a solution of nitrate of silver, from one-half to one drachm to the ounce, usually from three to four weeks being required to effect a permanent improvement. The treatment was then continued by the local application to the vagina of iodoform and tannin in powder, equal parts. These are not the cases which form the most serious and important instances of senile endometritis. These simple muco-serous discharges are easily diagnosed and usually easy cured; but in a certain number of cases the discharge assumes an entirely different character. Women who have not seen a sign of menstrual blood for one or more years, and who think themselves entirely safe from anything like pelvic disease, come to us because they have noticed for several months a bloody discharge from the vagina, not profuse in amount, but sufficient to soil and stain the linen—a so-called "spotting." In some the discharge has not only been bloody, but it has gradually become exceedingly offensive and has eroded the external genitals. Symptoms like the above are strongly indicative of malignant degeneration of the uterus.

Fortunately there are a few women with such symptoms who do not present the physical signs of cancer. We find no evidence of malignant degeneration of the cervix; we find a small, atrophic uterus, or at all events a uterus not enlarged; we find an eroded cervix, a raw vagina and vulva, and on passing the sound up into the uterus a bloody, sometimes brown or blackish discharge takes place. The positive diagnosis of

the malignancy or non-malignancy of these cases cannot be made by a mere digital or specular examination, but the microscope is indispensable, especially in those cases of doubtful senile endometritis where the discharge is so offensive as to lead one to strongly suspect the malignancy of the disease.

It is surprising in some of the cases to note how very suspicious the odor and appearance of the discharges are, and how benign the condition. I remember a lady of sixty in whom the discharge was so foul that I could scarcely bear to examine her in my office. The uterine canal was so contracted that I could scarcely introduce a probe, much less a curette. I had no doubt it was cancer of the endometrium. I succeeded with great difficulty in dilating the uterine canal and removed quite a quantity of blackish very offensive detritus with the sharp curette, but the disease proved to be nothing but a chronic endometritis, with decomposition of the retained contents owing to the contracted internal os. Nitric acid was applied, the cavity thoroughly drained and recovery was uninterrupted and permanent. It is probable that the presence of a fibroid tumor in the uterus may in some cases tend to favor the occurrence of senile endometritis; but the cases I have seen do not carry out this view, neither do I think that senile endometritis is more common in cases where the uterus is displaced, prolapsed or retro-displaced than where it is in a normal position.

The treatment consists of the curette; caustics, chiefly nitric acid, followed by solution of silver and drainage; and finally, when the erosion has healed, a contraction of the secreting surface by the frequent application of iodoform and tannin powder. Under no circumstances does it seem to me that the radical measure of a vaginal hysterectomy is indicated for this disease; at least in no such case as has come under my observation.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Necessity of Strict Dieting in Skin Diseases.

Brocq (*Journ. de Med. et de Chir.*, March, 1896) insists that not only are there certain kinds of food which provoke immediate eruptions of the skin—such as sea-fish, oysters, preserved meats, game, pork, cheese (which very often causes acne and folliculitis), certain acid fruits, strawberries, raspberries, gooseberries, cabbage, nuts, etc.—but that others act with a more delayed effect. The noxious effects of alcoholic liquors, beer, wine, coffee, and tea, are not generally admitted, yet they often cause urticaria. These ill effects are supposed to be caused by a veritable intoxication of the system, which they produce by their absorption, or by provoking some trouble of the stomach and intestines, and consequently influencing the whole organism. These eruptions can also occur from the elimination of irritant elements through the skin; in this case not only the food is concerned, but also the manner of preparing it. Certain persons cannot eat butter, especially if it is adulterated, and fat, oil, spices, and under-done meat produce ill effects upon others. Moreover, individual idiosyncrasies must be considered. These are not always the same during life, as sometimes we meet people who can at a certain time support a given substance, which, later, without any ascertainable reason, may cause an eruption.

It is generally easy to obtain from a patient a promise to abstain from food that produces ill effects, no matter how

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

pleasing it may be in taste, if these effects are immediate; but when the effects become apparent only after the lapse of considerable time, as in gout or rheumatism, it is hard to obtain such a promise. Yet it is reasonably certain that effects upon the skin are often produced as remote in time from the ingestion of the deleterious article of food as in the case of these two-named diseases, although, unfortunately for science, this remote effect is denied by the majority of dermatologists.

Observation has shown that if alimentation is defective, either through excess, want, bad qualities of the ingesta, or non-adaptation of food to circumstances and climate, either the food is badly digested, badly absorbed, and especially badly elaborated in the body, and the divers excretory functions become insufficient in their workings. In such cases, little by little, more or less toxic excremental matters are accumulated in the body, impressing upon the organism a seal of vital decadence and morbid vulnerability. It is known that individuals leading sedentary lives who eat heartily of substantial food, and in addition are moderate drinkers, or who are fond of tea or coffee, are subject to gout or rheumatism. If this is granted, why should the skin alone possess an immunity to the slow toxic effects of the gradual accumulation of excremental poisons? Frequently, in people of either hereditary or acquired gouty diathesis, are found cases of bullous or erysipelatous eczema and limited neurodermites, alternating with visceral and articular manifestations. Chronic alimentary intoxication must in all cases be considered the most important cause of the cutaneous symptoms.

The same considerations can be applied to many cases of nervous excitability, alimentation playing a more important part than is generally supposed possible. In a series of cases extending over a number of years, Dr. Brocq found excessive coffee drinking to be the cause of many pruriginous dermatoses. In many of these cases, coffee took the place of food to a large extent, and the patients were extremely thin, with trembling of the extremities. Nervous affections of the skin, with or without eczema, were especially numerous.

It then seems logical to advise arthritic people to observe a strict diet if they wish to avoid annoying eruptive attacks. They should particularly abstain from coffee, liquors, wine, beer, dark meats, and acid vegetables and fruits. Persons affected with acne must avoid salty cheese, preserved meats, and fish. These precautions must be particularly observed when an attack is imminent because of development of the morbid predisposition. The articles of food mentioned can play a role of accidental cause under these conditions and have an immediate pathological effect.

Treatment of Uterine Fibroids with Thyroid Gland.

Dr. Jouin (*Bull méd.*, 1896), used the extract of thyroid gland for a patient who had not only an enormous uterine fibroid, but was also very obese. The obesity was improved and the fibroid lost three-quarters of its volume. Impressed by this remarkable result, he used the same treatment in twenty-five cases, and found that the result was superior to the usual treatment. His conclusions are:

The thyroid treatment modifies the volume of uterine fibroids; its influence is very favorable on the most of the symptoms (local neuralgias, general weakness, and moral depression); it has remarkable influence on the hemorrhages, which become constantly modified; the hemorrhages during the menopause are favorably influenced. Moreover, as the fibroids are nothing but advanced sarcomata, it would be useful to try thyroid medication for sarcomata and for treatment after extirpation of tumors, which are supposed to be of sarcoma character.

Meat-Powder.

Owing to the perfection in manufacture and to the special care for the animals whose flesh is used, the meat-powder has been given a legal place in therapeutics, and its applications become more and more numerous. The opinion that one of the surest and the most rapid means of curing tuberculosis is the over-alimentation with meat-powder has lately become current.

Dr. Lasniée (*De viande*, Paris, 1896),

lets his patients take it in chocolate, whiskey, with syrups, etc. Under its influence, anorexia disappears rapidly, nutrition is relieved, all the functions are improved. At the same time, as the appetite is improved, the perspiration stops, the sleep is better, plumpness takes the place of the emaciation, the moral state is favorably influenced, and the culture-ground of the tuberculous bacillus is modified.

Hypodermatic Injections of Quinine.

Dr. Blum (*Arch de méd.*, January, 1896), reports a certain number of cases where hypodermatic injections of quinine were very successful. The ordinary dose is 1.50 (gr. xxx) for an adult, and 0.70 (gr. xii) for children. He never administered a quantity greater than gr. xxx. He advises to inject this dose at once. The following formula is adopted by the author:

℞ Chlorhydr. quinine . .	3	(℥i).
Analgesini	2	(gr. xxx).
Aq. destill	6	(℥iss).

Each syringe contains gr. x of quinine.

Injections of Glycerine Into the Uterine Cavity.

Dr. Chéron (*Rev des Mal. des femmes*, January, 1896), injects 5 gr. (℥iss) of glycerine into the uterine cavity every two or three days. The injection is made very slowly, so that the mucous membrane of the uterus is bathed in glycerine. After this, some tampons are put in the vagina. Under the influence of intra-uterine injections the congestion of the mucous membrane disappears very rapidly on account of the osmotic properties of the glycerine. The result is that the congestion decreases and the volume of the uterus is reduced; leucorrhea and menorrhages disappear.

The facility of using, the harmlessness and the rapidity of action are reasons for recommending this treatment.

Diagnosis and Treatment of Blennorrhagic Metritis.

Uterine blennorrhagia is one of the most frequent localizations of the gonococcus infection in women. (Dr. Appert, *La Temps. Gynec.*, March, 1896.) The blennorrhagic endometritis, and particularly that of the cervix, presents a special clinical physiognomy, inasmuch as cannot be confused with other forms of metritis.

The cervix does not seem to be altered in its form by touching, the lips are smooth, the external os is small and the finger does not penetrate so easily as in the case of puerperal metritis. The speculum confirms this diagnosis. In order to avoid any extension of contagion to the interior of the uterus and tabes, the physician must abstain from any intra-uterine interference, as dilatation with laminaria, Hégar's bougies, etc. Intra-uterine injections must be prescribed during the acute period, or at least must be limited only to the cervical canal, and must not pass the internal os. The little injuries, which might be provoked by the sound, favor the perimetritis.

Of all kind of interferences, the most dangerous is curetting, which opens a large area to absorption and favors the penetration of the gonococci. In fact, the day following curettage of a blennorrhagic uterus an elevation of the temperature may be noticed, and more or less severe pain, accompanied by symptoms of peritonitis. Sometimes the infection does not remain limited on the perimetrium; a veritable pelviperitonitis appears. Curetting provokes other accidents. By the veins which are opened, the blennorrhagic toxins are absorbed and provoke a reaction in the articulations, and arthritis is caused.

The treatment after Dr. Appert is as follows: 1. Acute blennorrhagia of the cervix. From the beginning the patient is given absolute rest. Vaginal injections are made with a feeble solution of permanganate of potash (1 : 2,000) and repeated twice daily. So soon as the acute symptoms disappear, touch the cervix with methylene-blue or wash the cervical canal with a feeble solution of permanganate, but in no way force the internal os.

When the uterine cavity becomes affected the patient must take an absolute rest in bed, and a bag with ice is continually kept on the abdomen. In this acute period any examination or interference must be avoided. A feeble antiseptic injection can be made, but

very carefully. If the pain is very severe an application of some leeches to the perineum and inguinal regions is useful. The pain can be relieved by enemata of laudanum.

2. Chronic blennorrhagia. When any symptom of the acute period disappeared, have recourse to vaginal tampons and intra-cervical dressing with permanganate or nitrate of silver. When the whole uterine cavity is affected, treat the infected cavity directly. After having largely dilated the uterus by means of laminaria, dress it repeatedly with glycerin-creasote or naphtol-camphor. The patient ought to be watched during the menses and especially a short time before, when frequent injections of permanganate should be made. In case of inveterate blennorrhagic cervicitis, perform an excision of the infected mucous membrane of the cervix.

Treatment of Post-Partum Hemorrhage.

Prof. Tarnier (*Soc. Obst. de France*), thinks that the successful treatment of post-partum hemorrhage needs an exact diagnosis of its origin and cause. These hemorrhages have two sources of origin and treatment is different according to the case. In the first, it comes from the cervix, vagina and vulva, in the second, from the body of the uterus.

Naturally, the cases of the second class are the most difficult to be treated. Consequently an exact diagnosis is absolutely necessary.

Hemorrhages of the cervix, vagina and vulva are due to traumata of these different parts, with rupture of the small vessels. The hemorrhage is then slow, but continuous. To make the diagnosis of the place and cause of hemorrhage, examine minutely the genital organs. By separating the large and small labiæ one can find the source of the hemorrhage; apply, if possible, a forcep to the artery, and suture the tear. When the hemorrhage takes place at the vulva, it can he stopped easily by means of forceps or ligature; but when its source is in the deep parts, vagina or cervix, mechanical arrest is difficult. In such a case one must have recourse to vaginal tampons of antiseptic gauze, a simple procedure of treatment, which succeeds always. For want of gauze when the hemorrhage is threatening, any material would be good for tampon (handkerchiefs, rags, etc). In short, for hemorrhages of the cervix, vagina or vulva, pinch the open vessels, ligature them and suture the soft and torn parts. Whenever this procedure is not applicable, the antiseptic vaginal tampon takes its place.

Hemorrhages of the body of the uterus are much more serious than the perevious, and more difficut to restrain. While in the first case the uterus is contracted, hard, in the hemorrhages of the body of the uterus it is soft and dilated. These hemorrhages depend upon the inertness and want of retraction of the uterus.

Prophylactic, curative, and consecutive measures are advisable in cases where the hemorrhage is from the uterus itself. Where the patient is albuminuric, or where there is a natural tendency to hemorrhage, sometimes shown in several members of the same family, preventive measures should always be employed. If immediate hemorrhage is feared, labor may be hastened by rupturing the membranes. Watch the uterus attentively, and as soon as there is an appearance of inertness, excite contractions by the hand. Ergot, given directly after the delivery, has not the value that is generally ascribed to it. Hot injections, however, have been proven invaluable.

For a curative measure, there is nothing equal to hot injections, made after the uterus has been thoroughly emptied. The promptest action is necessary. Ergotine may be used in combination with good results, but perchloride of iron is apt to stiffen the mucous membrane, causing adherent clots which are very difficult to expel. Should the hemorrhage be very mild, friction over the fundus will often be of great assistance in exciting contractions of the uterus.

After the hemorrhage has been controlled, give stimulants, warm drinks, etc. Ligate all the limbs, in order to retain the most of the blood of the body in the trunk. Transfusion of blood has been tried in cases of extreme exhaustion, but not with very flattering results. Artificial serum, in intravenous injections, has proved very useful.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BUER, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, AUGUST 1, 1896.

EDITORIAL.

SERUM TREATMENT IN PRIVATE PRACTICE.

The American Pediatric Society has undertaken a collective investigation of the results from the use of antitoxin in the treatment of diphtheria in private practice. At the late annual meeting in Montreal, the Society accepted from its committee a report on the subject, which contains much valuable information and affords an index of the esteem in which sero-therapy is at present held among American private practitioners who have tested the method and reported the results obtained.

To secure an expression of opinion from private practitioners as to the antitoxin treatment, after the lapse of time enough to justify forming an opinion, a circular letter was issued by the committee in April, and distributed as widely as possible during the interim before the annual meeting. The circular called for information upon the following points: Age; previous condition; duration of disease when the first injection was made; the number of injections; the extent of the membrane in tonsils, nose, pharynx and larynx; whether or not the diagnosis was confirmed by culture; complications or sequelæ, viz., pneumonia, nephritis, sepsis, paralysis; the result; and remarks, including other treatment employed, the preparation of antitoxin used, and general impression drawn from the case.

Reports were returned from 615 different physicians, with 3,628 cases. Of these, 244 cases have been excluded from the statistical tables. These were cases in which the disease was said to have been confined to the tonsils and the diagnosis not confirmed by culture, and therefore open to question. A few cases were reported in such doubtful terms as to leave the diagnosis uncertain. The figures given are of cases in which the diagnosis was confirmed by culture (about two-thirds of the whole number), and others giving pretty clear evidence of diphtheria, either in the fact that they had been contracted from other undoubted cases, or where the membrane had invaded other parts besides the tonsils, such as the palate, pharynx, nose or larynx. There remain for analysis 3,384 cases. The report also includes 942 cases from the Records of the New York Board of Health, and in addition 1,468 from the Records of the Chicago Health Department.

The consensus of opinion is that diphtheria during the past year was of a type not materially differing from that seen in previous years, and that those treated have been average cases of diphtheria.

The general conclusions reached by the Committee is contained in the summary of their report, as follows:—

1. The report includes returns from 615 physicians. Of this number more than 600 have pronounced themselves as strongly in favor of the serum treatment, the great majority being enthusiastic in its advocacy.

2. The cases included have been drawn from localities widely separated from each other, so that any peculiarity of local conditions to which might be ascribed the favorable reports, must be excluded.

3. The report includes the record of every case returned, except those in which the evidence of diphtheria was clearly questionable. It will be noted that doubtful cases which recovered had been excluded, while doubtful cases which were fatal, have been included.

4. No new cases of sudden death immediately after injection have been returned.

5. The number of cases injected reasonably early in which the serum appeared not to influence the progress of the disease was but nineteen, these being made up of nine cases of somewhat doubtful diagnosis; four cases of diphtheria complicating measles, and three malignant cases, in which the progress was so rapid that the cases had passed byond any reasonable prospect of recovery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value.

6. The number of cases in which the patients appeared to have been made worse by serum were three, and among those there is only one new case in which the result may fairly be attributed to the injection.

7. The general mortality in the 5,794 cases reported was 12.3 per cent.; excluding the cases moribund at the time of injection or dying within twenty-four hours, it was 8.8 per cent.

8. The most striking improvement was seen in the cases injected during the first three days. Of 4,120 such cases the mortality was 7.3 per cent.; excluding cases moribund at the time of the injection or dying within twenty-four hours, it was 4.8 per cent.

9. The mortality of 1,448 cases injected on or after the fourth day was 27 per cent.

10. The most convincing argument, and to the minds of the Committee an absolutely unanswerable one, in favor of serum therapy, is found in the results obtained in the 1,256 laryngeal cases (membraneous croup). In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the 533 cases in which intubation was performed the mortality was 25.9 per cent., or less than half as great as has ever been reported by any other method of treatment.

11. The proportion of cases of bron-

cho-pneumonia—15.9 per cent.—is very small and in striking contrast to results published from hospital sources.

12. As against the two or three instances in which the serum is believed to have acted unfavorably upon the heart, might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected.

13. There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases of genuine nephritis is remarkably small, the deaths from that source numbering but fifteen.

14. The effect of the serum on the nervous system is less marked than upon any other part of the body, paralytic sequelæ being recorded in 9.7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.

The report of the Committee in full was accepted after an interesting discussion, and the Society, in addition to the conclusions reached therein, adopted the following resolutions:—

(1) *Dosage.* For a child over two years old, the dosage of antitoxin should be, in all laryngeal cases with stenosis, and in all other severe cases, 1,500 to 2,000 units for the first injection, to be repeated in from eighteen to twenty-four hours, if there is no improvement, third dose after a similar interval, if necessary. For severe cases in children under two years, and for mild cases over that age, the initial dose should be 1,000 units, to be repeated as above if necessary; a second dose is not usually required. The dosage should always be estimated in antitoxin units and not of the amount of serum.

(1) *Quality of antitoxin.* The most concentrated strength of an absolutely reliable preparation.

(3) *Time of administration.* Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given, unless the progress of the case is favorable and satisfactory.

The Committee was continued for another year, and instructed to issue a circular asking the further coöperation of the profession, this circular to be sent out immediately in order that physicians may record their cases as they occur through the year.

TESTS FOR INSUFFICIENCY OF THE STRAIGHT MUSCLES.

In reference to the many tests suggested to demonstrate insufficiency of the straight muscles I will only mention two, that of the old Graefe vertical diplopia test, and the more modern one, the Maddox rod test. The great objection I have to these methods is that they take from the eyes their most important function, the power to fuse images which fall upon different parts of the retina, consequently placing the normal function of the eye in a false position; while, on the other hand, if we use the old, yet well tried and proved, prism test, we still have the advantages of the guiding sensation, and with the eyes in the normal condition are able to test the balance of power.

I have always held these views in reference to testing the ocular muscles, and if we refer to "Stevens on Functional Nervous Diseases," page 197, he says, in specifying the tests for insufficiency, 'All these determinations having been made with sufficient care, the examiner proceeds to ascertain the relative power of the different pairs of muscles by finding the strongest prism with which images can be united in different directions.' Hence it is very evident that the author, although he has given us different instruments to test these muscles, yet at the last must come back to the prism test, letting that decide the relative power of the muscles and the necessity of any interference. — Prof. Francis Volk, *The Post-Graduate*, May, 1896.

ABSTRACTS.

INTRA-OCULAR GROWTHS.*

Since the introduction of the ophthalmoscope the interior of the eyeball becomes like an open book, so that "he who runs may read." One of the most common forms of growths is a disease of the retina known as *Retinitis Proliferans.* A case was recently shown in which large bands of connective-tissue growth seemed to spring from the head of the optic nerve and spread like a fan over the macula region and toward the anterior portion of the eyeball. I have seen many changes, from a minute band over the head of the optic nerve limited to this area to almost complete filling of the vitreous space.

In some cases the retinal veins and arteries are completely obliterated, and in others a section of a vein appears or disappears like a loop. The veins are always enlarged at such points. Recently we had a case where a thin, narrow strip of this tissue sprang from the macula region of the right eye and passed directly forward to the ciliary processes; here and there thin strips were given off and extended into the vitreous and looked like hyaline casts. These proliferations do not assume any particular shape, but they all bear a striking resemblance to each other.

These cases come to the ophthalmic surgeon when vision is gone or the patient is suffering from pain. A strumous diathesis may be the soil upon which the growths develop; syphilis may also be a causation, and yet I have seen these growths in perfectly healthy individuals without any taint in the system. Undoubtedly in many cases the development was pre-natal. In not a few instances we have associated with the blindness great pain, assimilating neuralgia.

Treatment is of little avail. Iodide of potassium gave relief in one case within recent memory, but failed in others. The pain is caused, I believe, by the contraction of this cicatricial tissue. If the pain grows very severe we must enucleate the eyeball, or perform a Mule's operation.

In this case of sarcoma of the choroid with the ophthalmoscope you could see an apparent detachment of the retina, but the projection which is situated in the lower and outer quadrant of the fundus has a grayish-blue color as well as a rounded appearance.

In this projection of the retina we had the appearance of a solid body with a distinct rounded outline, a mottled blue-gray color; blood-vessels full and running in straight lines and disappearing over the crests of the body; a well-defined space between the apex of the tumor and the still attached and normal retina. In a detachment of the retina we have the corrugated surface, a distinct blue and white color, blood-vessels running in corrugated lines; no space between the normal attached retina and its detachment, and there is a concavity or falling away from the line of demarcation. The differential diagnosis between these two diseases is very difficult.

Sarcoma of the choroid is a very rare disease. This is the second case which has come under my direct charge in thirteen years of active practice, and I believe I am within bounds when I say that I have made upward of fifteen thousand ophthalmic examinations during that interval. While Clinical Assistant at Moorfields Hospital, London, during a service of two years, I can recall two cases. Whilst there, forty-six thousand new patients were entered on the hospital books, but it is needless to say that a very insignificant number of these cases were examined with the ophthalmoscope, the conditions not calling for it.

My first case in this country was seen at the Germantown Hospital nearly ten years ago. The patient, a German woman, sixty years old, consulted me for a partial dimness of vision in her right eye. Upon examination with the

* L. Webster Fox, M.D., Philadelphia, in *Dunglison's College and Clinical Record.*

ophthalmoscope I found a round body, over which the retina had the appearance of being tightly drawn—the solid appearance and mottled gray color led me to believe that I was dealing with a sarcoma of the choroid. The patient was kept under observation for some weeks. The growth seemed to get larger, and the patient also felt that the visual field was contracting. I advised enucleation, which was performed in the hospital, and a section made of the eyeball, revealing a large, round growth, filling up one-half of the vitreous chamber. A microscopical examination showed that the tumor was a melano-sarcoma.

About a year after this a very interesting case of new growth on the iris came to clinic; it had the appearance of syphilitic gumma. I placed the patient upon mixed treatment, which, however, did not prevent the tumor growing. I made an attempt at its removal by excising the growth with a part of the iris. The microscope revealed that we had a pigmented sarcoma to deal with. The wound healed without any secondary results, but the growth returned, and after filling the anterior chamber, I removed the whole eyeball. The tumor involved the ciliary bodies, and cells were also found in the choroid. The patient lived for three years and died in the hospital of involvement of the liver, in all probabilities a sarcoma, although no post-mortem examination was made.

All authorities agree upon its being a most malignant disease, and that sooner or later death ensues. When recognized, early enucleation may protect the patient, but the prognosis is always unfavorable, and if the growths are not arrested before death ensues, they develop to an enormous extent. I remember seeing a child three years of age, daughter of a druggist from an interior town of this State, with a growth from the orbit which attained the size of a pint cup in four months; and another case, an Algerian, where the tumor had grown even larger than the one just described. These growths were described by the older writers as fungus hæmatodes.

Glioma is generally in its commencement unattended with pain, and the first sign of its existence will be detected in the pupillary aperture, which has a bright metallic appearance, deep seated, with the pupil dilated and fixed; sometimes a deep-seated trabecular tumor is seen, over which a number of blood-vessels will be seen ramifying. No inconvenience is produced by this disease in the first stage, and the mother of the child or friends discover its existence before the patient.

If allowed to remain the globe will distend and become discolored by inflammation, and the pain becomes extreme, at last the iris and cornea give way and the mass projects externally, an ichorous discharge is poured out, repeated hemorrhages follow, and the patient dies.

Frequently, wandering cells of the glioma find their way into the cranial cavity, producing a large growth in the brain, and death follows. This disease, in an advanced stage, can only be confused with abscess of the globe, but in abscess extreme pain is felt from the commencement, and excessive vascularity with chemosis accompanies other symptoms. Children, in some rare cases, are subject to an inflammation of the retina or anterior portion of the vitreous, or it may be an inflammation of the ciliary bodies, which deposits a morbid mass of cream color; it does not look unlike boiled rice. The eyeball has a perfectly normal appearance, but the same metallic reflection which is seen through the pupil in cases of glioma will also be observed in this disease. The first appearance, therefore, is nearly the same, but the process is widely different. The disease is called pseudo-glioma.

In such cases it would not be proper to remove the eye at once; you must await developments, while in the true glioma it is imperative that enucleation take place immediately.

New formation of blood-vessels in the vitreous is a morbid process of very rare occurrence, yet in a comparatively short time we had three cases under observation. As to the origin, the histologist or pathologist does not give us much information. One can readily understand how a new blood-vessel may be formed on an inflamed cornea or in new tissue, but to form loops into a clean vitreous is still beyond our ken. As they do not restrict vision, we may look upon them as ophthalmoscopic curiosities.

LIBRARY TABLE.

SECRET NOSTRUMS AND SYSTEMS OF MEDICINE. A Book of Formulas, compiled by Charles W. Oleson, M.D. (Harvard). Sixth edition. Chicago: Oleson & Co., 1896. Price, $2.00, postpaid.

This work gives the formulæ of about 200 patent and semi-proprietary prescriptions. No claim is made that the exposition rests on original analyses, but most of the formulæ are credited to drug and medical journals. Quotations are often made explaining the method of analysis or the manner in which the formula was obtained. For example, the prescription for a secret pile remedy was patched together from fragments taken from a waste-paper basket. Sometimes the ingredients alone are given; sometimes the equivocal statement is made that such and such a nostrum "is said to be," etc., or that a certain mixture "cannot be distinguished from" some patent medicine. The report to the Massachusetts Board of Health, by Dr. B. S. Davenport, Analyst of Drugs, tabulates quite a long list of tonics and bitters, giving the proportion of alcohol in each. Considerable space is given to the Gray method of treating inebriety, said to be practically identical with that of Dwight. The methods of the pile and rupture itinerants are also exposed at length.

In spite of the disappointment that the formulæ are not stated positively in all cases, the frankness with which doubtful results are given inspires confidence. The book is of value for reference, especially to enable the physician to determine what a patient has been taking under some pretentious name, and it contains many formulæ which are excellent, in spite of their illegitimate source.

WEIR'S INDEX TO THE MEDICAL PRESS. April and May issues, 1896.

The first two issues of this new journal give promise of a useful career. A classified list of magazine articles is given for the month preceding the date of issue, and in the April number an alphabetic list of authors is printed, which we miss from the May number. Magazines are referred to by number, and a list of those quoted, with frequency of publication, price, etc., appears at the beginning of the *Index*. It may be of interest to the readers of the REPORTER to know that there are only six weekly medical journals listed for the entire country, the REPORTER being the oldest. The editorial of March 28, on *Current Medical Literature*, is quoted from the REPORTER.

MANUAL OF THE COMMON COUNCIL OF THE CITY OF BUFFALO, 1896.

This 200-page brochure is issued by the City Clerk, Mark S. Hubbell, and, though intended primarily as a directory and guide for the aldermen and councilmen (the latter forming an "upper house" and bearing the same relation to the former as senators to representatives), contains much information of interest to non-residents.

First laid out in 1804, burned to the ground in 1813 by the British, the village of Buffalo became a city in 1832, and now has a population of about 375,000. We note that there are twenty-six railroads entering Buffalo, with 250 passenger trains daily; that there are over 200 miles of asphalt pavement, and that the city and its suburbs form the largest stock, flour, and lumber market in the world. The death-rate has steadily declined from 23.48: 1,000 for 1891, to 13.95: 1,000 for 1895. Meantime, the deaths from contagious diseases have dropped from 7.42 to 4.04. We are led to infer that this remarkably low mortality is due in part to the vigilance of the health department, in part to the good water supply from Lake Erie, and in part to the asphalt and the consequent 50,000 bicycles which are estimated to be in use. We certainly envy the inhabitants of this lake city, their climate, which is described as highly delightful, and their temperature range of from ten to eighty degrees above zero. Nevertheless, we believe that we have heard that Spring in Buffalo is a theme not fit for any but a profane poet.

The *Monist* for July gives the position of honor to an article by Prof. Woods Hutchinson, of the University of Buffalo, on "The Holiness of Instinct" in which, among other things, the writer attacks the somewhat current belief that instinct must be all wrong in illness, whatever it may be in health. In substantiation of the position he takes, he quotes the recent changes in the treatment of fevers,

the dressing of wounds, and the general make-up of all the medicines used. There is a translation of Prof. Encken's article on "Philosophical Terminology and its history," and Prof. Jodi's essay on "On the Origin and Import of the Idea of Causality" is also translated by Thomas J. McCormack. "The Problem of Good and Evil" is treated editorially.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. J. Lewis Smith, M.D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, New York. New (8th) edition, thoroughly revised and rewritten and much enlarged. Octavo, 983 pp., with 273 illustrations and four full-page plates. Cloth, $4.50; leather, $5.50. Lea Brothers & Co., Publishers, New York and Philadelphia, 1896.

The works on diseases of children which have been most favorably received by the profession of late years have been those wherein the subject matter has been handled by two men, one devoting his ambition to the medical side, and the other elaborating the surgical aspect. By this method the profession feels a more perfect sense of reliance upon the contained statements than if a single author attempted the entire task.

The present volume is constructed upon this plan, and Prof. Smith has relegated the sections on the "Surgical Diseases of Children" to Dr. Stephen Smith, a surgeon of undoubted ability, and one in close touch with all the activity of several of the New York hospitals.

The recent advances in the knowledge of childhood's affections have necessitated no inconsiderable revision in this eighth edition, which, with the addition of several new chapters, has resulted in the production of a much more voluminous treatise than its predecessor, even though many condensations were made.

As a whole, it may be said that this book, familiar to the profession for so many years, easily maintains its rank with the best, and may be looked upon as a thoroughly reliable guide to the diseases of children, which usually form a third of every active physician's practice. W. H. P.

PERISCOPE.

MEDICINE.

Formulæ.

For acne:

℞

Camphoræ	0.30 gr. v
Acidi salicylici	0.50 gr. viij
Sulphuris precipitatæ	10.00 ℥ijss
Zinci oxidi	2.00 ℥ss
Saponis	1.00 gr. xv
Olei delphini	12.00 ℥iij

Sig.: Make the application each night; wash the face in the morning with soap and warm water.—*Boeck.*

A cough linctus, without opiate:

℞

Acid. hydrobromic. dil	℥j
Spt. chloroform	℥j
Syr. prun. virg.	℥iv
Mucilag. ad	℥iss

Sig.: Urg. tuss. ℥j.—*Practitioner.*

For tape-worm:

℞

Hydriodate of potass.	gr. xxxvi
Iodine	gr. xii
Water	℥j

Sig.: Ten drops three times a day.—*Newington.*

For cough of measles:

℞

Ext. hyoscyami	gr. ij
Syrup	℥iij
Distilled water	ad ℥ij

M. S.: A teaspoonful every two hours.
—*Widerhofer.*

For high arterial pressure when nitroglycerin is contraindicated:

℞

Chloral	
Bromide of sodium	āā ℥ij
Syrup of lactucarium	℥i
Water	q.s. ad ℥iij

M. S.: Teaspoonful every four hours.
—*Therapeutic Gazette.*

For gastralgia:

℞

Fl. ext. cocæ	℥i
Syrup aurant. flor.	℥v
Aquæ	℥ij

M. S.: Teaspoonful every hour until relieved.
—*D'Ardemie's Dominion Monthly.*

For Herpes Zoster:

℞

Morphiæ sulphat.	gr. viij
Collodii	f℥j

M. Sig.: Paint affected surfaces.
—*Van Harlingen.*

For rheumatic sore throat:

℞

Morph. sulph.	gr. v
Ac. carbolic	
Ac. tannic	āā ʒss
Glycerini	
Aq. dest.	āā ʒiv

M. Sig.: Apply locally.—*Medical Bulletin.*

For bronchitis:

℞

Syr. terebinthinæ	
Syr. tolu	āā 100 (oz. 3½)
Sodii benzoat	
Aquæ lauro-cerasi	āā 8 (dr. 2)

M. S.: Tablespoonful every four hours.

(Chronic.)

℞

Ext. eucalypt	25 (dr. 6¼)
Ammon. muriat.	
Ext. glycyrrh	āā 10 (dr. 2½)
Syr. tolu	100 (oz. 3⅛)

M. S.: Teaspoonful every two hours.

—*Medical World.*

Mixture for local anesthesia:

℞

Chloroform	10 parts
Ether	15 parts
Menthol	1 part

The anesthesia resulting from the application lasts about five minutes.—*Le Gerant.*

For cirrhosis of liver:

℞

Hippuric acid	dr. vi¼
Milk of lime, enough to saturate	
Essence of lime	oz. iss
Syrup	Oj

M. Sig.: Three or four tablespoonfuls daily.

—*Dr. Constantin Paul.*

For ozena:

℞

Pure glycerin	70
Borax	20
Distilled water	30

S.: Used as a nasal spray two or three times a day.—*Nouveaux Remèdes.*

For artificial feeding of infants:

℞

Milk	
Cream	āā ʒi
Water	
Lime water	āā ʒij
Malt sugar	ʒss

—*Hirst.*

For psoriasis:

℞

Ichthyoli	ʒi
Acidi salicylici	ʒi
Zinci oxidi	ʒij
Amyli	ʒiv
Petrolati	ʒi

M. S.: Apply locally twice a day.

—Schmitz (*Medico-Surg. Bulletin*).

For vaginitis:

℞

Pulv. aluminis	
Zinci sulphatis	
Sodii biboratis	
Acidi carbolici	āā ʒi
Aq.	ʒvi

M. S.: A tablespoonful to a quart of lukewarm water as a vaginal injection twice daily.

—*Vanderbilt Clinic.*

For sciatica:

℞

Alcoholic sol. nitroglycerin, 1 per cent	2	ʒss
Tinct. capsici.	6	ʒjss
Aq. menth. pip.	12	ʒiij

Take five drops three times a day for three days, and afterward ten drops three times a day.

—*Pacific Medical Journal.*

For diabetes:

℞

Arsenate of sodium	gr. i
Carbonate of lithium	ʒi
Codeine	gr. ijss
Dry extract of cinchona	ʒiv

Make into thirty cachets.

One of these cachets should be taken after breakfast and one after dinner.—*Robire.*

Quinine hair wash:

℞

Sulphate of quinine	gr. i
Eau de Cologne	ʒij
Bay rum	ʒij
Glycerin	gr. xv
Rose-water	ʒijss
Alcohol	ʒss

Dissolve the quinine in the eau de cologne, alcohol and bay rum, and add the glycerin and rose-water gradually.—*Pharmaceutical Era.*

NEWS AND MISCELLANY.

The Bucks County (Pa.) Medical Society will meet August 2, at Bristol.

About 7,000 Physicians Have now registered with the new Ohio State Board of Registration and Examination, at a fee of $5 each.

Dr. John Aulde has Resigned the Editorship of *The American Therapist* and relinquished his interest, although he was really its founder and has been the editor from the first number.

Dr. John Whitbridge Williams has just been appointed professor of obstetrics at the Johns-Hopkins University, and is in full charge of the department. He was formerly associate. He is the only native Baltimorean among the professors of that university.

Piperazine is Claimed to be Incompatible with vegetable matter. This powerful remedy in the uric acid diathesis sometimes fails, and it is thought that such failures may generally be attributed to the use of vegetable infusions and tinctures at the same time.

Accidental Injuries.—An Analysis of 2,000 accident policies on which benefits were paid shows 531 persons injured by falls on pavements, 243 by carriages or wagons, 75 by horse kicks or bites, and 47 by horse-back riding; 117 were cut with edged tools or glass, 96 were hurt by having weights fall on them, and 72 were hurt in bicycle accidents, while 72 were hurt by falling down stairs.—*Medical Record.*

Pilocarpine in Consumption and Cancer is thought a valuable agent in controlling the ravages of disease. Dr. Louis Waldstein reports that through the use of this drug the development and course of germ diseases can be materially arrested and controlled. The rationale of this treatment consists in stimulating the lymphatic system, and thus increasing the white corpuscles. This seems to have the effect of rendering harmless the toxic or germ elements in the blood which would tend to destroy or vitiate the red corpuscles.

Dr. Joseph McFarland has been elected professor of pathology of the Medico-Chirurgical College of this city to succeed Professor Ernest B. Sangree, who goes to the Vanderbilt University, of Nashville, Tenn. Dr. McFarland has been pathologist to the Rush hospital for consumptives, to the Episcopal hospital, adjunct professor in pathology to the Philadelphia Polyclinic, and assistant in the same branch to the University of Pennsylvania, of which institution he is a graduate.

Asepsis is possible in country parotice, although of course more difficult than in towns where all facilities are readily obtainable. Where it is impossible to secure the appliances of a clinical amphitheater, (*Munch. Med. Woch.* 1895) the water used in washing the hands, the seat of the operation, etc., should be boiled for an hour. All brushes should be boiled. The surgeon should carry with him antiseptic soap, alcohol, and a solution of sublimate. He should also carry handkerchiefs, aprons, bandages, silks, drainage tubes, etc., in a Mehler's sterilizing apparatus. Just before the operation all instruments, cloths, etc., should be boiled again. When possible the room should be wiped up with a damp cloth two hours before the operation, and all curtains, hangings, etc., removed. The patient should be bathed, and all washing-utensils, tables, and, in fact, everything to be used, should be carefully cleansed and disinfected. With infinite pains the difficulties of a country practice may be overcome and operations may be crowned with success.

Digitalis in Large Doses Constitutes one of the most powerful therapeutic agents in the treatment of pneumonia, says a writer in the *Medical Record.* It exerts a favorable action on the heart; in large doses it shortens the duration of the disease and increases the number of leucocytes. A dose of one grain of the powdered leaves, repeated four or five times daily, is borne without inconvenience. Hydrotherapy greatly increases the action of the drug.

Race Degeneracy has been much Discussed lately, but for all the words that have passed on the question, no definite decision has been reached. Max Nordau and Lombroso have startled us with their cries of danger in this respect. No doubt, individuals and families degenerate, but the race as a whole holds its own fairly well. Dr. Remondino takes this view. In an article in the *National Review,* he says: "If we take individual families, which for financial reasons continually intermarry—or if we take some closely intermarrying manufacturing locality, there can be no question that we are degenerating; but take the human race as a whole, and with the continued influx of good, sturdy country blood mingling with that of the worn-out families of the city to renew the stamina, it is doubtful if we are to-day more degenerate physically than were the Greeks in the earliest days of medicine, or more so morally than when Cain slew his brother Abel. In those days there were consumptives as well as insane; epilepsy and nervous diseases were common as now. In former epochs the mental degenerate were generally sooner or later killed by some impatient and unphilosophical fellow-man, and the physical degenerate stood then but little prospect for a long existence or for the propagation of his kind. The martial spirit of those times demanding an able physique to protect self and family, offered but little encouragement to marriage for the weak and sickly. The customs and habits of the times did not favor the propagation of the degenerate."

The *Journal of Hygiene* contends that the same is true to-day. A majority of the weaklings leave no children, or at most only one or two. The tramp is, as a rule, an unmarried man. Thieves and robbers find their way to prison, or if they leave offspring, they are not well cared for, and do not live to become parents. Twenty thousand die annually in New York before their fifth year, mostly of the degenerate stock. How many die before the age when they would marry no one knows, but the number is large. Race degeneration is not probable. Nature has put too many checks to it, but individual and family degeneration does exist, and must be guarded against.

The Sand Bath may become a Therapeutic agent of importance. The Mohammedans replace water by sand when needful,

and good effects have been noted. According to Cosmos, this religious practice is now recommended by modern physicians. Invalids have been completely or partially cured by sand heated to a temperature varying, according to the cases, forty-five to sixty degrees centigrade. The sand, containing air between its particles and being a bad conductor of heat, transmits it in a gentle and almost insensible manner. Respiration is favored up to the point where a patient may lose two quarts of liquid in one sand bath. Thanks to this evaporation, the invalid may support continued high temperature without the actual temperature of the body rising more than a few degrees, and this without fear of heart affections, if care be taken to put hot sand on the feet at the outset. The number of ailments that may be treated by this powerful curative agent is considerable. In the first place, it is especially beneficial to chronic rheumatism and to gout. Neuralgia and sciatica are cured or benefited by local or general baths. The most varied organic troubles of the nervous system, cardiac or digestive affections, have been treated by this method, sometimes with remarkable success. The same is true of tuberculous affections of the bones and joints. The account contains statistical tables relating to more than 100 patients annually.

The Internal Use of Ceylon Cinnamon bark is claimed to afford excellent palliative results in the treatment of carcinoma of the various internal organs. Dr. J. C. Ross employs it in large doses, and says the following formula must be used:

℞

Ceylon cinnamon bark . 11 to 13 ounces.
Water . . . . . 3 quarts.

Boil this mixture down to a quart. Decant without filtering. Take a pint every twenty-four hours by the half glassful, preferably after eating. Shake the bottle well before taking.

This treatment has given him good results in carcinoma of the stomach, breast, tongue, rectum and uterus. The principal affect is to quiet the pain, decrease the odor and improve the general condition of the patient. With this treatment patients who have been for a long time under morphine have been able to dispense with this drug.

A case of echinococcus of the pelvis and abdomen in a woman is reported by Pooth in the *Lancet*. The patient was twenty-seven years old, and had been subject to pain and hypogastric distension for several months. Two large fluctuating swellings were detected in Douglas's pouch; they simulated ovarian cysts. The abdomen was explored on September 7, 1895. Three cysts were shelled out of the omentum; they were as big as hen's eggs. Two were found, each as big as a fetal head, one was enucleated from Douglas's pouch. Minute cysts were disseminated all over the pelvic peritoneum. On September 17th, as Douglas's pouch was very much distended by a tense cyst, an incision was made. A quantity of echinococcus cysts came away. The cavity was packed with iodoform gauze, and washed out daily with a carbolized lotion, and cysts continued to come away. Then swellings appeared in both groins. An incision three inches loug was therefore made in each inguinal region. Cysts as big as eggs came out; another developed in the left hypochondrium. It adhered to the parietes; after being fixed by sutures, to make sure, it was opened. Over three pints of fluid with masses of cysts were withdrawn. The cavity was packed with iodoform gauze, and washed out daily. But the cysts extended, pushing the diaphragm upon the right side. On November 3d a rib was resected. Over two and one-half pints of sanious fluid escaped; on puncturing the diaphragm it contained numerous hydatid cysts. The patient died on the third day. The liver was found quite free from cysts. The primary seat of hydatid disease could not be determined.

In discussing Pooth's case, Dr. Brohl showed how uncertain the course of hydatid diseases in the abdomen is. Four years ago he operated upon a woman who had a fluctuating swelling extending from the hypogastrium up to the right hypochondrium where the ribs were pushed outwards, together with the outer edge of the liver. As a cyst was found extending to the ribs it was fixed by suture to the wound, high up, and opened a few days later. A great quantity of hydatid cysts of all sizes were discharged. A little later, when dullness on percussion was detected in the left flank, a small aperture was found in the left side of the cyst already opened. It was dilated, and handfuls of hydatids came away. The temperature rose, and the enormous double cavity was frequently syringed out. The patient recovered and remains well, though in its early stage this case seemed worse than Pooth's.

A boil on the nose is painful altogether out of proportion to its consequence, even though very small, because the skin is not only as thick and tough as that of the palm of the hand, but also because there is very little tissue intervening between it and the cartilage of the nose, as we all know who have tried to dissect these small muscles of the nose. An ordinary poultice, Dr. Carl Seiler says, will therefore not be of any avail, because no further swelling can be obtained in this locality to relieve the pressure, and consequently a poultice which will shrink the parts is indicated, and such a one is a raw cranberry, crushed, laid over the boil or pimple, and kept in place with a daub of stiff boiled starch. Try it, and you will find it to relieve the excruciating pain within a short time, and cure the trouble in twenty-four hours.

The value of antipyretics is discussed by M. Binz, of Bonn, in *La Presse Medicale de Belge*. He takes up quinine, antipyrin, antifebrin, thallin, ethyl, alcohol, and salicylic acid. Quinine acts by a direct depression of cellular activity, and not through its influence on the nervous system. This depressing action is manifested on the pathogenic cells of malarial fever as well as on the normal cells of the organism. The antipyretic action of the drug is, therefore, both local and general. Salicylic acid has properties analogous to those of quinine. It has an energetic antifermentative and antiputrefying action; it is not toxic; it is not destroyed in the human organism. The feeble chemical activity of its sodium salt is not an obstacle to its action in the organism, because the active acid is set free by the carbonic acid of the inflamed tissues. It differs from quinine, however, in having a different action upon the cells of the organism, an action which is analagous to that of the members of the following group. The antipyretic action of antipyrin is obtained by its influence on the central nervous system—that is, upon the head-regulating centres situated in the brain. The characteristic of its antipyretic action is to weaken actual nervous excitation produced by the agent which caused the fever. Antifebrin, phenacetin, and thallin act in a more or less analogous manner. Thallin, however, must be credited with direct destructive action on the organisms in the infective fevers. Alcohol has an appreciable action in lowering the temperature, particularly in the putrid or septic fevers. The causes of this action are many. The nervous system and the circulation are influenced. The excitation of the heart should also be considered, inasmuch as the circulationn in the skin is increased and the heat dissipation is accelerated. Again, large doses of alcohol ought to act as an antiseptic agent on the organism, diminishing the vitality of bacteria. There is no post-mortem elevation of temperature in febrile animals which have been treated by large doses of alcohol. Finally, alcohol is a powerful diuretic, and thus there is an added possibility in its use of a rapid elimination of toxines which cause and keep up the fever.

Poisonous fish are found in large numbers and in many places says the *Medical Record*, but more especially in the tropics. They are quite common in the Brazilian and West Indian waters, and also in the East Indian and Australian waters. Three kinds of fish belonging to the mackerel family are poisonous. One is called the jurel, and is found in the West Indies in large numbers. It can be distinguished from the common mackerel, which also abounds in the same waters, by certain peculiarities of marks. Thus, the jurel has no black spot on the gill covers; it has scales on the neck, while the harmless kind has a black spot and no scales on the neck. The poisonous kind grows large and often weighs as much as twenty pounds, but the others seldom run over two pounds. Mackerel weighing over two pounds are not allowed to be sold in the Havana markets. The chicaro is another kind of poisonous mackerel. It is also found in the West Indies, but the natives of those islands do not regard it as dangerous. The meat of the chicaro is not fit nor safe to eat at certain times of the year, especially during the spawning season. Then it becomes highly poisonous, and the people of Guadeloupe sometimes use pieces of this fish, which have been caught, to poison rats. The bonito is a kind of mackerel that is most dangerous at certain times of the year. Usually it is a very pleasant and palatable bit of food, but every once in a while people are taken with colic after eating the bonito. So it is best to let it alone. Two kinds of herring are known to be poisonous. The meletta, or tropical herring, is found all along the Atlantic coast as far north as New York. Within recent years there have been several cases in which people have died after eating this fish. The spawning season seems to be the time when the herring and other tropical fish should be let severely alone. The part which is considered most dangerous is the roe. The meletta which is found in East Indian and Australian waters is always poisonous, and is the more dangerous because it is not easily distinguished from another kind of herring which is comparatively harmless. The poisonous kind has a black nose and a black spot on the dorsal fin, while the other has not these marks. The poisonous meletta resembles a herring, being five or six inches long, with silvery scales and a bluish-green back. Some fish are poisonous in certain localities and harmless in other places; some are poisonous at certain seasons of the year and at other times wholesome; and finally, as a note of warning, we would say that visitors to the tropical countries should take no risk of eating fish which are not known to be safe as well as palatable.

Rubella has recently been epidemic in New York, and the subject of its outbreak is editorially treated in the *Archives of Pediatrics*. The article in question says that except during occasional epidemics, the disease is not of common occurrence. Many irregular and unclassified eruptions are no doubt called "German measles" which are not true rubella. The disease is evidently very contagious and typical cases are rarely seen singly. In the present epidemic the disease has pursued a very typical and distinctive course. The onset, as a rule, has been sudden, with very few premonitory symptoms. The temperature has rarely risen above 192°, nor has it been prolonged, as a rule, beyond the third day. Itching during the first day of the eruption has in some cases been marked.

The eruption is variable in appearance. Ashby and Wright speak of a measles variety and a scarlatinal variety. Some cases certainly simulate scarlet fever very closely,

while in others the individual lesions are of a size and appearance very suggestive of measles. As a rule, the spots are pale rose-red in color, larger than those of scarlet fever, but considerably smaller and less blotchy than those of measles. They are rarely grouped, and the skin does assume the scarlet hue. Authors differ widely in their statements as to the duration of the eruption. In the epidemic referred to, it was not unusual to see a profuse eruption disappear entirely at the end of forty-eight hours. Commonly, some evidences of the eruption could be found for three or four days; slight suffusion of the eyes was of frequent occurrence, but marked catarrhal symptoms were lacking.

One of the most interesting features of rubella is the constant presence of glandular enlargements. So constant is the occurrence of this symptom that the diagnosis should be made with caution when it is not present. The glands most frequently involved are the cervical, the post-cervical, and the sub-occipital. A nest of small glands found low in the neck behind the sternomastoid is especially characteristic of this disease. Although rubella is an extremely mild disease, the peculiar glandular enlargements, the marked eruption, and its close simulation of other more serious diseases render it of considerable interest.

Had Shakespeare been a doctor of medicine in active practice he would never have asked, "What's in a name?" He would have known that *gastrodynia* was far more impressive than simple *colic* and that any person would suffer from *scabies* with greater equanimity than from *itch*. He would have known that *German measles* was the worst possible name that could be applied to a disease which is not measles and has no relationship to it. The worst error in nomenclature for the practitioner is the application to a simple disease of the name of a more serious disease with a modifying adjective. The noun is sure to be remembered, the adjective is soon forgotten. Tell a mother that her child has German measles, explain it ever so carefully, and she will be sure to remember the measles and forget the German. Her children will be among those who have two attacks of measles, and some doctor in the future will be misled and diagnosis will be rendered difficult. We have no plan for correcting the evil, however. Words become fixed in their use and it is difficult to change them. Unfortunately, in this instance, there is no common word which can be utilized. Rubella means nothing to the average layman, scarlatina is a rank misnomer, roseola is but little better, and the average doctor does not know how to pronounce rotheln.

Intussusception may occur in infants, although this is comparatively rare. Dr. Morell cites an interesting case in Pediatrics. He says the child was a female, six months old and was taken suddenly ill with severe pain in the bowels and the passage of pure unmixed blood by stool. When first seen she was crying in great pain, and was vomiting, the pulse and respirations quickened, the temperature normal, and the abdomen tympanitic. The napkins were thoroughly saturated with blood. She had no motion of the bowels since the day before. One-sixteenth grain of morphine was administered to produce rest. Next day the child was apparently better, no vomiting, and no movement nor blood from the bowel. On the following day, however, the child was worse; face pale and anxious, two passages of blood from the bowel and vomiting of greenish yellow fluid. Child died at three a. m. The child always had been healthy, and had no diarrhœa, which sometimes produces invagination. It may have been due to some strain, causing part of the bowel to become invaginated. In regard to treatment of these cases various measures have been advocated. Vogel recommends opium and rest and strict diet. Rokitansky suggests injections of air or aspirations by means of a suction-pump. Other authorities maintain that these injections are extremely dangerous. Laparotomy has been done for intestinal obstruction. William Macewen, of Glasgow, did a successful operation on a child of nine months. It is very doubtful if many infants survive the operation. J. R. Comte, of Geneva (*Annual Univ. Med. Science*), "does not think that childhood is a contra-indication to laparotomy, but as collapse develops quickly, and as the heart's action has not matured, he advises prompt action."

A common cause of alopecia, according to Dr. Henri Fournier, is that the scalp is washed too often, and is thus lacking in oil. Many races oil the hair, and such are seldom bald. Some animals also, as, for example, birds, which possess neither seborrheal nor sebaceous glands, have a gland which secretes an oily substance which the animal rubs on the skin to protect the feathers from the action of water. The product of sebaceous glands is remarkably rich in fat, and possesses a notably small amount of water. The falling of a certain number of hairs is a physiological phenomenon. The author is of the opinion, however, that the application of oil to the scalp would be beneficial to most persons, and it is suggested that the rubbing into the scalp of a pomade or other fatty substances—be made part of the daily toilet, the pomade to carry with it some antiseptic substance.

Lemons are regarded as excellent therapeutic agents in lung diseases, and many instances have recently been placed on record where they have been of great benefit. When used for a lung trouble from six to nine a day should be used. More juice is obtained from lemons by boiling them, says the Cincinnati *Lancet-Clinic*. Put the lemons in cold water and bring slowly to a boil. Boil slowly until

they begin to soften; remove from the water, and when cold enough to handle squeeze until the juice is extracted; strain and add enough loaf or crushed sugar to make it palatable, being careful not to make it too sweet. Add about twice as much water as there is juice. This preparation may be made every morning, or enough may be prepared one day to last three or four days, but it must be kept in a cool place.

A new test for sugar in the urine, devised by Dr. A. R. Elliott, and claimed to be most accurate, is as follows:

Solution one:

℞

Cupric Sulphate	27	grains
Glycerine (Pure)	3	drachms
Distilled Water	2½	drachms
Liq. Potassæ.....ad	4	ounces

Dissolve the cupric sulphate in the glycerine and water, and gently heat. When cold, add the liquor potassæ.

Solution two.—A saturated solution of chemically pure tartaric acid.

These solutions are quite stable, and keep indefinitely.

Into a test tube pour a drachm of the cupric acid solution. Boil gently over a spirit lamp. Then add two or three drops of the tartaric acid solution, and boil again. The urine is now added slowly, drop by drop, until eight drops are added. If no reaction takes place by this time there is no sugar. The reaction is a yellowish or reddish or greenish-gray deposit of suboxide, which is marked and unmistakable. In a few minutes, the reaction deepens.

The effects of eye-strain in schools is described by Dr. E. W. Scripture of Yale University in a recent number of *The Outlook*, under the title "The Bad-eye Factory." He states that about one per cent. of myopic eyes are due to congenital defect, the remainder are "a gift—thoughtlessly and needlessly, but irrevocably—bestowed upon us by the school." In German village schools one to two per cent. of the pupils are myopic; in primary schools seven per cent., in grammar schools ten, in colleges twenty to twenty-six, and universities forty to sixty per cent. The percentage of myopia shows a steady increase in successive classes. In view of these and many other observed facts it may be concluded that myopia is oftenest produced "by work held too close to the eyes, during the early years of life, when the eyes are soft." Young children are forced to do work upon objects of such small size that they cannot be plainly seen without bringing the objects close to the eye. The kinder-garten occupations of perforating, sewing, bead-stringing and drawing on cross-ruled paper are justly condemned by Dr. Scripture as injurious to the eyes of young children, and we might add to their nerves as well. In the older classes too fine print is responsible for much eye-strain. Investigation has shown that print should not fall below the following standard in order that the book may be held at the proper distance: Heighth of smallest "n," 1-16 inch; thickness of main line of "n," 1-100 inch; distance between letters, 1-32 inch; space between lines, 3-32 inch; length of line not over four inches. For children the print should be larger. It was found at Giessen that the abolishing of home exercises in writing was followed by a marked decrease in bad eyes. Commenting upon the article, Dr. Henry Ling Taylor says in *Pediatrics:* These facts are doubtless familiar to most of us, and are only brought forward to remind those who are devoting their lives to the interests of childhood to keep steadily in view their function as teachers, and to exert their powerful influence in the direction of a better school hygiene, and thus hasten the day when the price of an education will no longer be for so many a pair of dimmed eyes.

A heroic treatment for drunkenness, used with gratifying results among the soldiers in his command, is reported by an army surgeon in the *American Medico-Surgical Bulletin*. Every man who reports at the hospital in a stage of simple alcoholism, is treated as a case of alcoholic poisoning, taken immediately to the operating room, his stomach emptied by the use of a stomach-pump, and thoroughly washed out with warm two per cent soda solution. After this he is given a bowel of hot beef extract, with cayenne pepper, and allowed an hour's rest, after which he is perfectly able to do his duty. The treatment is energetic, but an excellent means of ridding the army post hospital of that class of periodical drunkards who regularly report for treatment and a little rest after the usual pay-day spree.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2057. SATURDAY, AUGUST 8, 1896. VOL. LXXV—No. 6

ORIGINAL ARTICLES.

ADDRESS IN OBSTETRICS.*

ISRAEL CLEAVER, M.D., READING, PA.

The first advent of a young physician into an assemblage of the great in our profession is inherently accompanied with feelings that hold in abeyance deliberative tendencies, and he is wholly engaged in observation. Such at least was my experience. But with familiarity, hero-worship vanishes, reverence gives place to respect, and this is not an obstacle to the exercise of reflection or criticism.

Hence, presently, I became time and again impressed with the fact that, after the ending of a session, on the return home and for months after, there was more general conversation about the social features and entertainments, or some question of polity, than the scientific exercises. I do not say that the scientific work had no account made of it; on the contrary with some it was their only theme, but I do say that if it made any impression at all, it was of comparatively few days duration with the majority, while other matters would be recalled for months afterward.

Looking backward on twenty years of my life with this society, the papers on scientific questions that I can recall from unaided memory are few, and I submit that those of you who can make the same retrospect will be conscious of a similar experience. With none of the stated topics prescribed for these occasions does the above charge, to my thinking, hold so pre-eminently true as with that of obstetrics.

The organizers of this society in their judgment seemed to think that the proper manner of presenting these stated papers was in the form of *reviews* of progress for the year previous, and whether those to whom was committed such annual histories of obstetrics deviated from this practice I cannot discover. But in 1871 the adoption of a rule prescribing this order, specifically for papers on obstretics, conveys to my thought a covert reprimand for a delinquency of this kind.

Nevertheless, within a very few years thereafter, we find papers on obstretrics breaking from this mooring. Apologies and excuses for the breach, and sometimes for the temerity of writing anything at all, prefix most of them, and all being good, I beg leave to appropri-

* Pennsylvania State Medical Society, May, 1896.

ate them collectively as being applicable to me as much as to any of my honored predecessors. My deviation is not exactly in their line, which generally was a study of some select feature of obstetric science, or else a division of honors with gynecology. If there is a chance of making papers in obstetrics as much to be remembered as any of its kindred, I respectfully submit that it most probably lies in a review of the subject as presented to this society in the past one or two decades. Besides, every physician who has the enterprise to attend these yearly meetings, has kept pace with obstetric progress of any value by means of his journals and magazines, and to rehearse the same here, would be to him a threadbare story. But the unearthing of what has been generally forgotten, *may* be something new.

Since 1873 the questions treated in the various papers on obstetrics range as follows:—

Vaccination during pregnancy, 1; prediction of sex by auscultation, 1; forceps, 5; cephalotripsy, 1; cæsarean section, 4; Crede's method, 1; version *vs.* forceps, 1; rupture of perineum, 5; post-mortem delivery, 1; placenta-previa, 8; post-partum hemorrhage, 5; extra-uterine pregnancy, 6; electricity in uterine inertia, and induction of premature labor, 1; oxytocics, 2; hastening labor, 2; correction of position in difficult labor, 1; post-partum paralysis of bladder, 1; contracted pelves, 1; resuscitation of fetus, 1; suppression of milk, 1; puerperal fever, 4; puerperal eclampsia, 9; diagnosis of early pregnancy, 1; diagnosis of sex in utero, 1; vomiting in pregnancy, 4; laceration of cervix, 3; abortion, 3; asepsis and antisepsis, 10; mastitis, 2; rupture of uterus, 1; anesthetics, 2; symphysotomy, 3.

I can draw no logical relation between the number of times these points were presented and their importance, nor the frequency with which they are encountered in practice. One thing is suggested when examining the record, and that is, that those authors, loyal to their instructions, differed materially in their views of what was important. Perhaps the most unsatisfactory phase of the matter is, that mooted points are left unsettled without the author's views; new and excellent suggestions perish with the birth; and much effort is expended in seemingly no purpose of direction. Perhaps this will be more apparent by illustrations drawn from the record.

Use of the forceps is discussed five times. One author, after reporting the fact of increasing use of the instrument being prevalent, names several justifiable and beneficent reasons for this. Another admits this increased frequent use, but deplores it, styles it an abuse, and calls attention to the array of lacerations of the perineum, cervix uteri and other ailments left in its wake. No reconciliation of these opposite results appears anywhere. Others differ as to the indications for their use. Obviously such handling of the subject does not confirm belief, unify practice, or scarcely convert an old practitioner from his custom; while a young one is either confused or inclined to scepticism as to the value of authorities.

The paper on cephalotripsy proves admirably its preference to craniotomy, and yet how small a percentum of practicing *accoucheurs* possess a cephalotribe, and how many perform craniotomy. Again, several gentlemen discuss the relative value of cæsarean section and craniotomy. Would the discussion be different in conclusion, if cephalotripsy were considered instead of craniotomy?

One contributor seems to me to have had a thought similar to mine, touching the scattering of forces by our present method, and if ever aware of it, I had forgotten it, and not until in the preparation of this paper did I discover this "kindred spirit" who tried to focus effect, and in intent anticipated the talk of this moment by a number of years.

He, in order to measure up to the requirement, sent out as he says, a circular letter to over two hundred recognized obstetricians throughout the United States. This circular embodied the following questions:

First. Have you discovered during the last year anything pertaining to the obstetric art which you regard as new?

Second. Have you had any remarkable recovery of a patient in which treatment, either mechanical or medicinal was entitled to credit?

He continues—"It is highly gratifying to me to be able to state that in answer to the above I received over *thirty* communications, a goodly number of which were reports of cases of interest, and which had not been given to the profession and had occurred during the last year."

These reports were truly valuable, but about half pertained to gynecology and I submit that the latter is not a department of obstetrics, and while they sometimes overlap each other in their exercise, they do so no more than when a case primarily medical, becomes typically surgical. I say this not unaware that high and respected authority asserts the contrary.

Another contributor, instead of ranging over the field culling hither and thither, concentrates his duty on the subject of placenta prævia, describing a method of treatment whereby delivery may be accomplished by the vertex instead of version, the more common practice. He claims that by his plan the life of the child is less jeopardized, and so well does he present his theme that conviction it seems to me should be prompt and forceful. This is one of the few papers I remember since its delivery. It is twice alluded to by subsequent essayists, but the majority of those who heard it have forgotten it as I know by query.

Puerperal eclampsia, though a subject in a number of papers, is still a mooted question both as to etiology and treatment. A unique feature brought forward in this connection, is that the ratio of susceptibility to this malady as between blondes and brunettes is as one to nine. Would not further inquiry on this point be at least interesting?

Report has been made by some papers of measures and expedients, that would seem to be of much value, yet subsequent reviews show either that they could not be popularized, or were too premature for the appreciation of the average practitioner. For instance—one gentleman states that the rate of the fetal heart is higher in a girl than a boy, which is a conceded fact. Further, that the average size of the male fetus is larger than the female,—also not denied. From this is made the deduction: The larger the volume of the fetus, the slower the pulse-rate, and therefore, the rate of the fetal pulse may be a criterion for the induction of premature labor in cases of disproportionate large growth of the fetus. This, at first blush, seems merely a fine-spun theory but such it has not been found to be, and is one of those points of precision not to be too lightly cast aside.

There marks on ectopic gestation show a unique continuity of progressive teaching, almost as regular as though the work of one mind, and yet my table shows the record of six different authors. The first, dating back twenty-three years, discusses it with an apparent feeling as though emerging from darkness into light relative to this topic. The essayist believes the points of diagnosis are being made more clear, but is divided in the matter of treatment, between galvanism and gastrotomy. This of course before actual rupture occurs. Ten years elapse ere another comes before this society, attracted by the accident, and he initiates the matter of electric treatment according to the method of Rockwell, and in very favorable words.

A small lapse again occurs, as though this method were on trial, and then another gives his voice in its favor. Speedily follows one whom we all regard as a safe authority, and while he has good words to speak in its behalf, with cautious discernment he says he thinks abdominal section will soon be preferred.

The next, following with but a year's interval, seems poised in the dividing line of decision, for while in lively measures he recounts what is claimed for the faradic current in this exigency, he tempers his *pronunciamento* with these words—"notwithstanding this positive and definite counsel, coming from a source eminent enough to constitute an authority, more than one dissenting voice has been raised, vehemently protesting against the use of electricity in extra-uterine pregnancy. An investigation into the secondary dangers, as well as into the after-condition of the health of the woman upon whom electric feticide has been performed, is of paramount importance in settling the question of electricity *versus* exsection. Two more follow, one on the heels of the other. The first, with uncertainty, to be read

"between the lines" says: The trouble is apparently on the increase. Electricity is not so much thought of, and surgical procedure prevails. The second but echoes the words of his predecessor.

I submit that this is a beautiful illustration of the mutations to which our science is subject, and yet without which progress seems impossible.

But it is also the *only* sub-division of the obstetric subject that shows this continuity of treatment at the hands of the method in vogue in this organization. For asepsis and antisepsis in obstetric practice, as their use is presented, (if you eliminate therefrom hospital practice) it seems as if *pro* and *con* had each other by the throat, while decision stands by, inactivity looking on.

You may possibly quote against me, "It is easier to pull down than to rear." I admit that such construction may be deduced from what has been expressed.

I believe that obstetric study, while as full of intricacy as any of the other stated branches, is not subject to the rapid diversities of changeful progress as they; neither has it so many to make. In the matter of discovery and improvement, more specifically related to medical and surgical practice, it has been so rapid, wonderful, and of vast stride in the more recent years, that contemplation thereof affects the intellect much as does the kaleidoscope the vision. I think that my predecessors have wrought up to their requirements and many of them displayed Saul-like proportions in their sphere; and yet I have it in my thought that the obstetric phase is not as catching to the ear, as other matter wont be listened to on these occasions.

Allow me to submit, as a plan for the future presentation of obstetrics in this society, *section work*, modified as circumstances or choice may determine. To describe a method now in mind, let me again quote from an essayist brought into use previously in connection with ectopic gestation. You will remember he says: "An investigation into the secondary dangers, as well as the after-condition of the health of the woman upon whom electric feticide has been performed, is of paramount importance in settling the question of *electricity vs.* exsection." For example, let there be named one, or a committee of more than one, to whom shall be delegated the duty of directing research in this line. Let this research be made by the hands of those best fitted by nature and opportunity to execute the same, and selected according to the judgment of the directing centre.

I believe it would be advantageous if these several parties were cognizant of their mutual relations in this work, and held frequent correspondence with each other, or even had appointed assemblings together to compare work and endeavor to harmonize differences or solve reasons for such difference. Would not unification result instead of the antagonisms so often displayed in our professional inquiries, and progress be accelerated?

Or let this directing head issue inquiries in like manner with him, also previously noted, who expressed himself "much gratified" at the result. Still again, when the author of a paper introduces something new, whether original or not, and it appears of value, instead of its being treated as "seed by the wayside," spirited into forgetfulness, let this direction give it issue into proper channels for confirmation.

Likewise, this head-centre may be made the avenue through which an individual investigator may obtain helpers to secure increased area for operation and a multiplying of effort.

After one year of such work, collected and arranged for presentation at our annual meetings by appointed direction, think you not that the gathering will be that of larger and heavier sheaves than heretofore?

A use for even the patent medicine almanac has been discovered. It is a favorite axiom of the optimists, says the *Journal of the American Medical Association*, that everything has its uses, but it remained for the New Mexico Territorial Board of Health to find a use for the patent medicine almanac. In a recently issued circular on the prevention of consumption, among other things, it is advised that "every person so affected should spit into some receptacle and should see that the sputum is soon destroyed by fire. About the house there is no better way than to spit between the leaves of patent medicine almanacs and after a half dozen or more spittings burn the book."

ECLAMPSIA.*

J. S. PETERSON, M.D., NEW YORK CITY.

The word, eclampsia, while it is a convertible term, yet I believe it is generally understood to mean puerperal convulsion, occurring either during pregnancy or during the puerperium, and Roberts divides the cases which may properly come under this term into three classes: Those depending on chronic or confirmed Bright's disease; cases of passive renal congestion or a condition resembling acute Bright's disease, and cases depending on reflected uterine irritation or meningeal congestion.

I cannot but agree with Dr. Cunningham when he says that there is no branch of obstetrics in which a thorough knowledge of the symptoms and treatment is more essential than in eclampsia, and I wish to add that that fact cannot be dwelt upon too strongly by the teacher in the different institutions for medical studies; for while we have premonitory symptoms, unless properly interpreted and understood, they are liable to be overlooked, not alone by the younger members of the profession, but also by the older ones.

Parvin estimates the frequency of occurrence of eclampsia as one in 250 to 300; Lusk one in 600; Cunningham saw six out of 1072 cases of labor. It has been my fortune, or more correctly speaking, my misfortune, to see two out of a record of seventy-two cases of labor, besides one where I was called in consultation and subsequently delivered.

As to etiology, various theories have been advanced, but taken on a whole, the opinion seems to prevail that it is a disease due to the retention in the system of some foreign substance, causing an irritation of the centres of the nervous system; and that albuminuria enters largely into the contributing cause there seems not the slightest of doubts.

The first case I wish to report to you to-day is that of Mrs. K., aged twenty-five, second pregnancy. I was called in the night of January 28, 1894. I found the patient suffering from erratic pains, but with no sign of labor. After giving a sedative, I went home. On the night of February 1st, I was called again about two A.M., and found the patient in labor; but as I had just arrived home when called, having had a confinement earlier in the evening, and finding labor progressing slowly, I laid down to get an hour's rest, if possible, and while I did not get any sleep, still I rested. At about five o'clock, I heard the patient retire. Up to this time pains had occurred regularly about every twenty-five minutes, but the character of these was such as led me to believe that we had not yet arrived at the second stage of labor. After the patient had retired she had two or three pains, after which they ceased, and on going to the bed, I found her in convulsions. Calling the nurse, who sat, nodding, in a chair, to prepare to go for assistance if required, I made an examination, and found the os sufficiently dilated to apply forceps. Not taking time to send for assistance, but giving the patient an hyperdermatic of ½ grain of morphine and $\frac{1}{75}$ grain of atropia, and instructing my nurse to give chloroform, I proceeded to deliver her of a male child (alive, first position). My reasons for giving chloroform were two: First, to control spasm with the aid of morphine; second, to cause relaxation of muscles of the parts. After delivery, convulsions stopped at once, chloroform was discontinued, patient came to before placenta was delivered, which took about thirty-five minutes, after which I gave ½ drachm fluid extract of ergot in two doses, and having drawn off urine for examination, the patient was bandaged and told to rest. No more convulsions occurred and she made good recovery, being out of bed the eleventh day.

Upon examination of urine, I found

* Read at meeting of Alumni of Medical Department, Niagara University, Buffalo, May 12, 1896.

it contained a large amount of albumin, seemingly 75 per cent. The peculiar feature of this case is the fact that there was no edema, and, second, that no albumin had been found in the urine before, it having been examined once every month, for three months previous to labor. This case, therefore, properly belongs to the second case.

The second case was that of Mrs. E., aged twenty-six. In this case slight traces of albumin were found in urine in the sixth, seventh, eighth and ninth months, but only very slight, so much so that no treatment was given and none seemingly was required. I was called November 21, 1895, at about eleven P.M., but the patient being a primipara, and labor being slow, I left, telling them I would be back at about eight or nine o'clock next morning, and to send for me before if pains became strong. When I arrived the second time, I had nearly full dilatation, and she was delivered of a fine, strong male child, about eleven A.M., November 22d, (head presenting also in this case) under chloroform narcosis and with instruments. Calling to see my patient on the evening of the 22d, I found her in good condition. I was summoned in haste the same night about one A.M., by her husband, who told me his wife had "fits." Upon my arrival at the house, the patient was all over the spasm, but as the nurse informed me, she had had two in the time her husband went for me, and while standing at her bedside another occurred, stronger, as the nurse informed me, than the first. I at once administered chloroform, giving first a hyperdermatic of ½ grain morphine and $\frac{1}{75}$ grain atropia. After the convulsions ceased, I discontinued chloroform, but gave an injection of chloral, 40 grains, and potassium bromide, 20 grains, and ten drops of tincture of veratrum viride, when required to control pulse. The chloral and bromide was given every six hours for the first two days, after which it was discontinued. No more convulsions occurred, and she made a good recovery. In this case, however, slight edema had existed from the fifth month of pregnancy and albumin continued in urine until third month after delivery.

The third case was that of Mrs. H., aged thirty, multipara. I was called on July 15th, about two P.M., to consult with two other physicians, who gave me the following history: Mrs. H., aged thirty, third pregnancy, six and one-half months gestation; had first convulsion on July 13th, about noon; another at two P.M. The family doctor was sent for, but as convulsion did not re-occur, no medicine was given and nothing further done. None occurred on Friday, July 14th, but on the morning of July 15th, about three A.M., another convulsion occurred and the spasms continued with small intermissions up to the time of delivery, but were kept partially in control by chloroform. The family physician was called at once when first convulsion occurred, and also another doctor to consult and assist. Full doses of jalap and sulphate of magnesia were given, and veratrum viride in full doses, but spasms still continued when not controlled by chloroform. The urine had at no time been examined. Upon examination of patient, who was edematous beyond recognition, so much, in fact, that had I been assured it was the normal state, I should not have hesitated to pronounce her weight 250 pounds, when it was in reality only 120 pounds.

Upon examination I found a rigid and puckered os with hardly any dilatation, pulse about 125 to 130, stertorous labored breathing. She was bathed in perspiration, and in a state of nearly, if not entirely complete coma. I advised the giving of one-half grain morphine and $\frac{1}{75}$ grain atropia, continuation of chloroform and the emptying of the uterus which was readily agreed to, and I was asked to operate, as the family physician being a relative of the patient preferred not to do so. The other presided at the chloroform. My mode of procedure was as follows: First, I cleansed the vagina with a 1:2000 solution of bichlorid, thoroughly disinfecting it; second, I disinfected my hands and arms in an equally strong solution; third, I proceeded with digital dilatations of os. In about forty-five minutes the patient was delivered of a dead female child of about six and one-half months gestation. Chloroform was now discontinued and the placenta was delivered about thirty minutes later, at

which time the patient had already revived sufficiently so that ½ drachm of fluid extract of ergot could be given. After drawing the urine for examination, the patient was bandaged.

By the courtesy of the physician, I was able to observe this case and also examine urine for some time afterward. The edematous condition gradually grew less, taking nine days before restoration to the normal. The albumin in the urine gradually decreased from about 75 per cent. per volume (as at the first examination) up to the last I was able to obtain, which was about two months after delivery, when yet a slight trace was found.

I was afterwards informed that patient's mother had also suffered from eclampsia, also that in third month of pregnancy she had suffered from abscess of the mammæ and also had continuous swelling below the eyes. What relation these might have had, I am not prepared to say, but to my mind the facts would seem to indicate:—

First, hereditary conditions; second, that uremic poison existed at least from third month and might also have been the cause of the abscess of the mammæ.

SOME NOTES ON AUTOPSIES.*

JOSEPH P. WALSH,† A.M., M.D., PHILADELPHIA.

Asphyxia and seminal emissions with autopsies in three cases.

On three of the subjects on whom public autopsies were performed during the year, seminal fluid was found beneath the foreskin or genitalia or clothing. There seemed to have been in these cases an ejaculation of seminal fluid during the death agony. In the first two cases the clinical history was known (they were suicidal hanging cases), and the finding of seminal fluid was not a surprise, as it is not infrequently reported in such cases. In the third case it formed but one link in a chain of evidence that was expected to determine the cause of death.

The subject was a large, robust male of forty to fifty years, with no marks of external violence and no pathologic lesions internally to account for death. There seemed to be some slight mitral insufficiency, but not enough to account for death, and heart disease, as an easy reason for unaccountable deaths on finding the least cardiac lesion, has lost its satisfactoriness. The heart itself had not suffered from dilatation and the kidneys were not the dark congested organs that would be found in fatal regurgitant cases. The stomach contained more fluid than usual, but not enough to excite suspicion of large quantities having been swallowed just before death. There was some venous congestion of the lungs, but scarcely enough to suggest a pathologic condition here that had preceded death for any considerable length of time. All the other organs contained no pathologic conditions that would account for death. With the findings in the two hanging cases still fresh in memory, the theory of hanging naturally suggested itself. But there was no preternatural mobility of the neck and no brush-burn. Where, however, there has been no fracture or dislocation of the cervical vertebræ, death taking place from strangulation, the abnormal mobility is not found, and even in certain hanging cases the characteristic brush-burn is either absent entirely or disappears shortly after death.

The decision reached was, in the absence of clinical history, that deceased had come to his death from unknown causes, but that the presence of seminal fluid on the genitals suggested asphyxia as a possible cause.

The history as afterwards learned (it was a coroner's case) confirmed this, as the death was due to drowning, probably suicidal.

* A selection, with some additions, from the "Notes on Autopsies," to which was awarded the prize offered by the Demonstrator of Morbid Anatomy for the best set of notes on his autopsies at the University of Pennsylvania.

† Resident physician of St. Agnes Hospital.

A look into the literature of seminal emissions caused by asphyxia gives some support to but does not very fully confirm the generalization on which the conclusion given above was founded.

In animals asphyxiated, seminal emissions do not seem to occur very frequently. In men in hanging and drowning cases they have been quite frequently reported. This is especially true of hanging cases. Kolliker,* in "Some Observations and Experiments on the Dead Body of a Condemned Criminal," observed contractions which he describes as "typically peristaltic in the seminal canal and ducts some minutes after death had taken place."

This would seem to confirm the opinion held by some that the involuntary discharges of various kinds that accompany asphyxia are due to the removal of the inhibitory influence of the higher volitional centres in the cerebrum over the purely reflex centres in the cord.

Richet† attributes an active part to certain centres in the medulla, the absence of oxygen in the blood-supply here leading to reflex contraction of all the unstriated muscles. But while he mentions dilatation of the pupil, and fecal and urinary incontinence, and calls attention to the forcible peristaltic movements of the intestines, which may even be perceived through abdominal walls, he says nothing of seminal discharges.

Obstetricians have reported a certain number of cases of asphyxiated male children, in whom erections of the penis were noted, and this may perhaps be the result of the action of the same causes. Local disturbances of the circulation in the new-born depend so much on the peculiar conditions of pressure and counter-pressure to which the infant is subjected during labor that very little weight can be attached to such facts as confirmatory of the influence of asphyxia on the sexual centres.

We have not been able to find, then, any very important confirmation of the sexual effect of asphyxia in such cases, though there is a very wide-spread opinion which the observations in our own three cases support, that in some way the lumbar centre for ejaculation is irritated and seminal discharges result, in the two classes of cases, those by hanging and drowning, in which death surely is from asphyxia.

* Zeitschrift fur Wissenschaftl. Zoologie, 1851, T. III. Quoted by Guelliot, Anatomie et Pathologie des Vesicules Seminales.

† Richet. Dictionnaire de Physiologie, Paris, 1895, Art., Asphyxie.

Late suppers, so far from being harmful in all cases, are in some decidedly beneficial, says the Canada *Lancet*. The old tradition that to eat anything before going to bed was sure to cause indigestion and render sleep impossible, is now happily exploded. It is not good in fact to go to bed with the stomach so loaded that undigested food will render one restless, but something of a light, palatable nature in the stomach is one of the best aids to quietude and rest. The process of digestion goes on in sleep with as much regularity as when one is taking violent exercise to aid it, and so something in the stomach is a very desirable condition for a night's rest. Some physicians have declared, indeed, that a good deal of the prevalent insomnia is the result of an unconscious craving of the stomach for food in persons who have been unduly frightened by the opinion that they must not eat before going to bed, or who have, like many nervous women, been keeping themselves in a state of semi-starvation. Nothing is more agreeable on retiring for the night than to take a bowel of hot broth, like oatmeal gruel or clam soup. It is a positive aid to nervous people, and induces peaceful slumbers. This is especially the case in cold winter nights, when the stomach craves warmth as much as any other part of the body. Even a glass of hot milk is grateful to the palate on such occasions; but a light, well-cooked gruel is better, and in our climate, during the cold months of winter, should be the retiring food of every woman, who feels, as many do, the need of food at night.

Pure collodion applied directly to the open wound in fistula in ano, is recommended by Dr. J. Garmell in *Medical Age*. Though the application causes intense momentary pain, this is quickly succeeded by a pleasant, comfortable sensation. It contracts the parts and acts as a protective, beneath which healing takes place rapidly.

COMMUNICATIONS.

THE TREATMENT OF PERNICIOUS ANEMIA.*

ALFRED STENGEL, M.D.,† PHILADELPHIA.

Two years ago I had the honor of reading before the Society a paper on the "Nature, Diagnosis and Treatment of Pernicious Anemia," and of alluding to certain cases that had come under my observation.‡ I wish now to add the experience of the last two years and to discuss further measures of treatment, especially that which has recently become popular—the administration of bone-marrow.

It seems necessary to me now, as it did two years ago, to consider, first of all, the cases which are to be classified as pernicious anemia, and to discuss the nature of the affection. There is little that I wish to add to what I said then regarding the nature of the disease. The weight of opinion has steadily moved toward a general acceptance of the view that pernicious anemia is a hemolytic disease. Aside from the fact that experimenters have produced anemic conditions in animals similar to the disease as it occurs in man, I would again allude to the pathologic lesions discovered in the disease, and especially to the abundant deposits of pigment found in the liver, the spleen and other organs; to the occurrence of icterus, and of pathologic pigmentation of the urine; and to the less certainly significant discovery of peptonuria and excess of uric acid in the urine.

As far as the blood-making organs are concerned, the evidence points to inordinate activity rather than to diminished function. We may assume, therefore, that there is active hemolysis rather than faulty hemogenesis in this disease. In my previous discussion I held the view that while the disease is essentially hemolytic in nature, it might still be proper to speak of deficient hemogenesis in the sense that a certain amount of hemolysis would exercise no decided influence upon the condition of the blood in healthy persons, while in those of lowered blood-making lower progressive deterioration of the blood would ensue. In proof of this view we may recall to mind the fact that similar diseases act most dissimilarly in different persons, and that while in one but a moderate anemia follows a gastro-intestinal or other disorder or a loss of blood by hemorrhage, in another there is extreme debility and deterioration of the blood. Cases might then occur in which the ordinary wear and tear of life, in a person of deficient hemogenetic power, would lead to the clinical picture of pernicious anemia. Such cases, however, do not seem to occur, as far as any observations now at hand would indicate. In all cases in which studies of the pathology of the disease have been made, there is evidence of active hemolysis. Therefore we are led to the belief that in all cases of pernicious anemia the condition of the blood results from active blood-destruction, which is either so decided that normal hemogenesis cannot cope with it, or which is decided enough to overbalance the deficient hemogenesis of the particular individual.

The essence of the disease is, therefore, blood-destruction. The seat of this remains doubtful, though recent experiments and investigations have partially cleared the way for a fuller knowledge. The occurrence of hemoglobinemia, which is occasionally observed, and of icterus, which is an almost constant symptom, led at first to the assumption that there is in this disease, as well as in other diseases attended with so-called hematogenous jaundice, widespread blood-destruction

* Read before the Philadelphia County Medical Society April 8, 1896.

† Instructor in Clinical Medicine, University of Pennsylvania; Assistant Physician, University Hospital; Physician to Philadelphia and Howard Hospitals.

‡ *Therapeutic Gazette* for June, 1894.

in the general circulation. Recent investigations, however, leave no room for doubting that such jaundice can have only an hepatic origin. Experimenters are unanimous in the view that blood-destruction leading to the formation of hematoidin, bilirubin or hematoporphyrin and consequent jaundice, can have its final stage only within the liver. The preliminary separation of hemoglobin or hematin may occur in the general circulation or in any local part, as in the portal area, but the final change occurs in the liver. Whatever view we may hold as to the original seat of the hemolytic changes, we cannot deny the rôle of the liver as a contributing organ in the final changes brought about in the circulating blood.

Quincke, Mott, Peter, Hunter, Griffith and Burr, and others have investigated the pigment-deposits found in pernicious anemia, and have in particular called attention to the iron-containing pigment of the liver and spleen. Hunter in some of his earlier studies found that there was evidence of blood-destruction in the spleen, in the gastro-intestinal tract, and in the bone-marrow, and he regarded the relative importance of these organs as falling in the order in which they are named. More recently he has inclined to the view that the spleen is the all-important seat of hemolysis as far as pernicious anemia is concerned. This view, it seems to me, is a retrograde one, and based, as it largely is, upon the occurrence of large amounts of iron-containing pigment in the spleen rests upon uncertain ground. Pathologists have long maintained, and with apparent justification, that the spleen is a filtering organ, as are the lymphatic glands. The presence of abundant pigment, and particularly that in the lymphoid nodes where it is most abundant, might, therefore, readily occur in cases of blood-destruction taking place in any part of the circulation. This is well illustrated by the enlargement and pigmentation of the spleen, which occur in experiments in which blood-destruction is brought about by injection of distilled water or direct transfusion of blood into the circulation. The existence of pigment in the spleen is, therefore, no indication that it originated there; neither is the presence of brownish coloring-matter resembling hematoidin or bilirubin to be looked upon as of splenic origin.

On the other hand, there is evidence of a clinical kind that blood-destruction may have a gastro-intestinal origin. I need only allude to the constant anemia of diseases of this part of the body, to the occurrence of severe anemia in cases of gastric atrophy, in some cases of gastric carcinoma, ulceration, etc., and to the clinical evidence that has been brought by those who favor the view of Sir Andrew Clark regarding the intestinal origin of chlorosis. I may further allude again to the cases of Landoz, Jürgensen, Meyer, and others, in which severe anemia was rapidly cured by lavage or removal in other ways of bacteria and noxious agents of other kinds from the gastro-intestinal tract. It seems likely that the first stages in the process of hemolysis begin in the capillaries of the gastro-intestinal tract, and that the final change, with the formation of iron-containing pigment, occurs in the liver. That this pigment is not brought to the liver for the purpose of elimination with the bile (as would at first sight seem probable) is proved by the fact that the bile normally contains but a trace of iron. It is more probable, therefore, that the iron-pigment is formed in the liver and subsequently removed to parts where it may be utilized or excreted. The former purpose is probably carried out in the bone-marrow and spleen, the latter in the gastro-intestinal tract and to a very small extent in the kidneys.

I believe, then, that pernicious anemia is a hemolytic disease, in which hemogenesis may or may not be equal to the normal, though always insufficient to cope with the hemolysis; that this hemolysis is originated in the gastro-intestinal capillaries, and is dependent upon poisons generated or at any rate absorbed from that tract; that the final splitting-up of the blood coloring-matter occurs in the liver; and that the hemosiderin is subsequently removed to the spleen and bone-marrow (perhaps for purposes of hemogenesis) and to the intestines and kidneys (to be excreted).

As far as our knowledge of the disease extends to-day, it is but a symptomatic disorder of the blood, and not a disease

in the strict sense. It matters not whether a cause is discovered or not; whether there be gastro-intestinal lesions, parasites in the intestines, pregnancy or parturition, or no discoverable cause—the resulting condition of the blood, the symptoms, the course and tendency to a fatal termination, and the general post-mortem lesions are the same; and I can therefore see no justification for setting apart a group of cases as true Addisonian pernicious anemia, and calling all those in which causes are found severe secondary anemia. One set of cases is as progressive and as pernicious as the other, and the deduction seems obvious that the apparently causeless forms are such as have baffled our minuteness of examination or our methods. I have seen cases of pernicious anemia dependent upon or associated with gastric atrophy, gastric carcinoma, gastritis with polypoid growths, parturition, and ankylostomiasis (in this case the blood only), and have been unable to see differences of a characteristic kind from other cases in which the disease appeared wholly causeless. All cases of severe anemia—or, as it has been suggested to call such cases, of *cachemia*—in which maximum degrees of oligocythemia, with microcytosis, macrocytosis, and poikilocytosis, occur, in which nucleated red corpuscles are discovered, and the hemoglobin is relatively excessive or at least approximately equal in percentage to that of the corpuscles—all such cases may be designated as pernicious anemia. In the treatment I believe it is wise and proper to regard all such as cases of hemolytic disease of gastro-intestinal origin.

The treatment may be divided into three heads: first, "specific" treatment; second, the treatment directed to altering the general conditions of the circulation; and third, treatment of the intestinal conditions or of underlying affections which influence unfavorably the progress of the case or perhaps act as the immediate causes of the disease.

The "specific" treatment of pernicious anemia consists in the use of three remedies—iron, arsenic and bone-marrow—and I shall consider them in this order, as it is the order in which they have been brought before the notice of the profession.

Iron.—The value of iron in anemia is unquestioned. It may be true, as Bunge and his pupils maintain, that only a comparatively small proportion of the iron administered is absorbed; but whether this is the case or not, clinical experience allows no question regarding the value of this drug in various anemic conditions. It is particularly valuable in cases of chlorosis and in the ordinary anemia of debility. Its use has been advocated in pernicious anemia, and in certain cases good results have been obtained. In most cases, however, iron is of little value, and I am positive that I have seen it contribute to the patient's discomfort and unfavorably influence the progress of the disease, when it was administered during the active stage of pernicious anemia. In convalescence it is a valuable remedy; and though the view of Stockman, that iron is practically a necessity at this stage, is probably too radical, there is no doubt that the combination of iron with arsenic or other treatment is most desirable during the convalescence of this disease. It may be administered in the form of Blaud's pill, or as iron albuminate, or in the form of one of the physiologic preparations now in the market. The latter, I believe, have no special advantage over some of the inorganic preparations, excepting that they may be more acceptable to the stomach and not so constipating.

Arsenic was introduced by Isnard in 1865, but was more particularly commended by Bryam Bramwell, to whom the credit of its introduction is due. There is no doubt that in many cases of pernicious anemia this remedy is little short of a specific. It is to be recalled, however, that pernicious anemia, like other anemic diseases, is liable to curious and unexpected improvements, and Laache has pointed out that spontaneous recovery is occasionally met with. With the knowledge of these facts before us, however, we may assert that the remedy has really power to combat the progress of the disease and perhaps to effect a cure. Regarding the manner in which arsenic acts, little can be said. It may be that in some way it prevents intesti-

nal putrefaction and thus limits the formation of the immediate cause of the disease; again, it may exercise a direct influence upon the corpuscles of the blood, increasing their resisting power; or, in the third place, it may increase the hemogenetic function. I am inclined to believe that it acts in some way to prevent blood-destruction and possibly at the same time to regulate the function of the bone-marrow and other blood-making organs. If it stimulated the latter without influencing blood-destruction, we might expect a sudden increase of nucleated corpuscles and other immature forms of erythrocytes after its administration, but such does not occur. There is a progressive tendency on the part of the blood to the assumption of a more healthy appearance in size and shape and other features of the corpuscles; so that it would seem as if blood-destruction were progressing less rapidly and the hemogenetic organs were influenced to restore the normal blood-formation. This, however, is largely speculation, and perhaps after all unimportant. The clinical fact remains that this remedy influences favorably the course of the disease. Whether the improvement is a permanent one or not cannot be positively asserted. Cases of apparent cure after intervals of three, five or more years have been reported; but on the other hand temporary improvement has been noted by Pye-Smith, Mackenzie, Barrs, Russell, and others; while in many of the cases in which definite cure was supposed to have occurred, the patient has passed out of observation. My own experience would indicate that in many cases in which the patient has been apparently cured, the disease has in reality been only superficially influenced, as may be seen in the reports of some of the following cases, in which, though the patients presented a healthful appearance and believed themselves to be well, the blood-examination showed a continuance of the disease. Such cases are prone to recur, and Mackenzie has specially called attention to a form of relapsing pernicious anemia. In this form, I incline to believe, there has never been a definite cure, the intervals representing periods of apparent recovery, though blood-examination might have shown a continuance of the disease.

The administration of arsenic in cases of pernicious anemia is a matter of considerable importance. In all cases it should go hand in hand with repeated examinations of the blood, and should be regulated by the response or tolerance of the patient. Sometimes improvement is at once apparent, and only moderate doses are required; in other cases excessive doses, even to the production of toxic symptoms, may fail to influence the course of the disease. Ordinarily Fowler's solution, administered by the mouth in doses of from five to twenty drops three times daily, proves sufficient. If the dose has been increased to twenty drops without noticeable change in the condition of the blood, great care should be exercised in the further increase of the dose. In particular it is to be remembered that gastro-intestinal disturbances may be provoked and may cause rapid loss of ground. When this is feared, it is well to administer the remedy hypodermically. Five or ten minims of Fowler's solution, diluted with an equal quantity of water, may readily be administered in this way, and I have never found it in the least irritating. The results are sometimes quite striking, in contrast with the effects of the administration of like amounts by the mouth.

The following cases illustrate the value of arsenic in the treatment of pernicious anemia and at the same time illustrate the point which has already been brought out—that apparent cure does not imply real recovery, and that it is imperative to continue the treatment without interruption for a long time, perhaps for years, despite the most encouraging appearances.

Case I.—A. T., aged sixty-three, single, presented herself at the Howard Hospital in June, 1895, giving the following history: She was a healthy girl and woman until five or six years ago, when she began to suffer pain in the chest, weakness, and disturbance of stomach. There was increasing flatulence and repeated vomiting, which finally became almost constant; the appetite was poor; there were frequent headaches; but the bowels remained regular. Her sleep became disturbed,

and she grew more and more weak. About six months before admission she began to be pale and noticed that she was growing short of breath; cough became a distressing symptom, and so continued, with pain in the chest.

On admission her eyesight was not good, and she complained of a feeling of pins-and-needles in her feet and ankles; brain and memory were active; extreme weakness and pallor were noted, the color being yellowish; the conjunctivæ were somewhat icteric; the feet were swollen, and pitted on pressure; the tongue was coated; the lungs were healthy; the heart-sounds were very feeble, but no murmur was audible; the abdomen was moderately distended and tympanitic; the knee-jerks were a little increased, but there was no loss of sensation. Examination of the blood showed 1,400,000 red corpuscles to the cubic millimeter and forty per cent. of hemoglobin. The stained preparation of the blood showed marked irregularity in the size of the red corpuscles and some irregularity in shape; there were nucleated red corpuscles, both small and large.

The patient was given Fowler's solution in ascending doses.

On July 12th, the patient returned, feeling much better; there was almost no swelling of the legs; the appetite was good, but flatulence was still present and the tongue was coated; the knee-jerks were still excessive, but the sensory symptoms were less prominent; the lips were becoming red. The red corpuscles numbered 1,615,000 to the cubic millimeter; the hemoglobin-estimation was 45 per cent. Examination of her eyes by Dr. Posey showed some evidences of old hemorrhages.

On July 26th she had improved remarkably in every way, and felt that she was quite well. The red corpuscles numbered 2,560,000 to the cubic millimeter, and the hemoglobin-estimation was 62 per cent.

During August and September the patient was quite comfortable, but in the latter month she had an attack of bronchitis and relapsed. On October 8th she returned with 50 per cent. of hemoglobin and 2,000,000 red corpuscles to the cubic millimeter. She was again ordered to take arsenic, which lately she had neglected, and during November she improved considerably. In December she was careless of her medicine and was considerably exposed; so that by the end of the month she had again relapsed.

In January, 1896, I saw her at her home, and found that she had acute lobar pneumonia, the base of the right lung being consolidated. There was considerable edema in the other parts of the lung. Treatment with arsenic was continued vigorously, and strychnin and other stimulants administered. After three weeks she had practically recovered; and in March she was again in her normal condition, though still pallid and yellowish, short of breath on slight exertion, and troubled with slight cough. Her hemoglobin-estimation was now 45 per cent.

Case II was under the care of Dr. George Woodward, with whom I saw her in August, 1894. The history was as follows: H. M., aged seventy-seven, born in England, came to America when fifty-three years old. She was married at twenty-one years, and bore twelve children; there had been no miscarriages. Her previous health had been poor for a number of years, dating from an obscure illness. She had been asthmatic for twenty years. In 1890 her husband died; the loss greatly affected her, and her memory and general health began to fail. In 1891 she had a severe attack of influenza, and in 1892 another. Since the latter date she had scarcely been well at all. She came under Dr. Woodward's care in April, 1894, with dyspeptic symptoms. She became profoundly anemic, and there was a murmur over the base of the heart; the lungs were normal; the urine was normal; the pulse generally was about 60; the respirations 22. Her anemia and debility increased progressively, so that she was in bed the greater part of the day, and finally in July was entirely bed-ridden.

In August the following notes were made: "The patient is apparently well nourished, having lost little if anything in weight. Her skin is pallid—ofttimes yellowish; and the conjunctivæ are pearly blue. No arcus senilis is present. There is some edema of the ankles, and at times this becomes

marked. There are discolorations of the skin along the tibiæ, and spots of ecchymosis on the forearms. The superficial vessels are not prominent. The pulse is 60, somewhat irregular and collapsing. The area of cardiac dulness is increased, and a double murmur is heard over the root of the aorta. The respirations number from 26 to 28, and are regular and sometimes asthmatic. There is no cough or expectoration. The voice is clear. Her stomach is easily disturbed; but the bowels are regular. The liver and spleen are of normal dimensions. There is no fever. The urine is light-colored and normal. There has been no pain at any time, but the patient complains of numbness of the legs. The knee-jerk is present, though greatly lessened. The thyroid gland is enlarged."

Examination of the blood showed 2,000,000 red corpuscles to the cubic millimeter and 25 per cent. of hemoglobin; the drop as it exuded from the finger was light-colored, and the clear plasma separated readily from the corpuscles. Examination of the stained preparation showed abundant megaloblasts and normoblasts, marked poikilocytosis, and irregularity in the size of the corpuscles.

Arsenic was administered in ascending doses by the mouth, and was continued with little interruption.

In October, 1894, I saw the patient again. She had been out of bed for some weeks and was apparently quite well. Her memory was still poor, but she considered her physical health normal. Examination of the blood, however, showed only 1,800,000 red corpuscles to the cubic centimeter, and 65 per cent. of hemoglobin. She was directed to continue the arsenic.

In February, 1896, I saw her for the third time. She had taken Fowler's solution almost without interruption since October, 1894. She now seemed quite well—in fact, more robust than most persons of her age, now over seventy-eight. There was still a cardiac murmur at the aortic region, systolic in time, and a less distinct diastolic murmur. The hemoglobin was between 95 and 100 per cent. (The reading was probably a little high, as some congestion was produced to obtain the drop of blood).

Bone-marrow was introduced as a remedy in the treatment of pernicious anemia by Fraser, of Edinburgh, in 1894, and has since been used by a number of clinicians, who have reported variable results. The use of bone-marrow can scarcely be said to rest upon a scientific basis, and some have objected to it upon the ground that the bone-marrow is in nowise an organic secreting tissue, and that in consequence little good need be expected from its administration. It has been held that, as the formation of the blood, with which the bone-marrow is concerned, is a process of cell-multiplication rather than a secretion, the administration of extracts could scarcely be expected to give results. On the other hand, it may be said that our knowledge regarding the function of the bone-marrow, and particularly its relation to the fluid elements of the blood and to the general metabolism, is so meager that we are not permitted dogmatically to assert that it is devoid of action of the chemical sort and the disproof or proof of the value of this remedy must therefore rest for the present upon clinical experiment rather than speculation. Fraser, Danforth, Drummond, Barrs, Hamilton and others have reported cases in which bone-marrow seemed a useful remedy, and I shall record below a case of which the same could be asserted. On the other hand, J. S. Billings, Jr., Stockman and others have found it useless in a small number of cases, and I shall report a case in which the same observation was made. It may be said regarding the latter that the condition of the patient was extremely unfavorable when the remedy was first administered, and the surrounding conditions did not permit of the most accurate conduct of the treatment.

Some of those who have objected to the use of bone-marrow on theoretic grounds have sought to explain its occasionally apparent usefulness by the statement that it contains sufficient iron to prove beneficial in anemia. It would seem scarcely necessary to dispose of this view by accurate analysis, as the amount of the bone-marrow administered has always been relatively small and therefore the amount of iron consumed in this way must be considerably

below that ingested with the food; but Stockman has taken the trouble to analyze the marrow. Taking the yellow marrow of three specimens from different animals, he found in one (26 gm.) 0.001 gm. of iron; in the second (20 gm.), slightly less; and in the third (100 gm.), 0.0025 gm.; therefore an ounce of yellow marrow contains about one sixty-fifth of a grain of iron. In analyzing the red marrow of the calf, he found that 40 gm. contained 0.0035 gm. iron, and 26 gm. contained 0.002 gm.: or an ounce of the marrow contained about one-thirtieth of a grain of iron. These facts are sufficient to show that the marrow does not act by virtue of the iron contained.

Regarding the variability in action in different cases, while it must be admitted that the entire number reported has been insufficient to warrant positive conclusions, I have been inclined to believe that much depends upon the preparation of the marrow, and in one of my own cases a glycerin extract was employed without striking effect, while the raw bone-marrow acted immediately, to all appearances. It was the failure of the glycerin extract made from calves' ribs that led me to turn to raw bone-marrow. I had previously used the marrow plain, but had found that the patients soon rebelled and that the stomach became unretentive. I therefore looked for a more acceptable form and found that by taking the red marrow of the tibia of the calf, mixing it with an equal quantity of glycerin, and rubbing the mixture up in a mortar, a preparation could be made, the taste of which was pleasant, and which could be eaten upon bread without danger of disturbance of the stomach. The preparation may be made a little more fluid by the addition of claret or port wine; but I prefer the simple glycerin jam. From one to two ounces of this may be administered during the day. I have always been careful to get marrow which was quite red, as this is certainly the functionally active sort.

I shall now report two cases of advanced pernicious anemia in which bone-marrow was used. In the first, raw bone-marrow was employed for a short time, but not long enough to determine its value; later, arsenic with a glycerin extract of bone-marrow was given without notable effect; finally the marrow-jam was administered when the patient was almost moribund and when large doses of arsenic had been given continuously without any effect. Though the arsenic was continued in small doses at the same time, the immediate and striking improvement which occurred seemed fairly attributable to the bone-marrow. In a subsequent relapse bone-marrow was given again, but without effect.

In the second case the patient was far advanced when the treatment was begun, and the bone-marrow exercised no influence.

It is obvious that deductions cannot be drawn from a single case of improvement or of failure. In the first case the sudden and striking improvement might have been co-incident, though the manner in which the stomach became retentive and the general conditions improved was most suggestive. The failure in the second case may have been due to the advanced stage of the disease, and certainly the conditions under which this patient was treated did not permit of the same accurate regulation and observation as in the first case.

Case III.—H. S. B., aged thirty-nine, presented a family history that had no bearing on his case. He had been a strong, healthy man, working hard all his life. In 1886 he had malaria while living in Delaware. He was accustomed to the use of liquor and tobacco in excessive quantity. There was no venereal history. In 1891 he had an attack which was considered influenza, and he asserts that he never entirely recovered from this. The fatal illness began in June, 1893. He had been working hard and drinking considerably, taking one glass of whisky before breakfast every morning. He first had diarrhea and began to become pale, his strength failing and his memory growing poor. He became a patient of Dr. A. J. Bevan, with whom I saw him first in September, 1894; he was then extremely pallid and of a yellowish hue, puffy beneath the eyes and about the ankles; dyspnea was pronounced, and he complained of passing more than the normal quantity of urine and of being disturbed at night to empty the bladder. Examination showed his lungs to be normal. There

was a systolic murmur at the pulmonary region, and less distinctly at the apex. Examination of the blood showed 1,150,000 red corpuscles to the cubic millimeter and 40 per cent. of hemoglobin; there was no leukocytosis. The specimen of stained blood under the microscope showed typical microcytes, macrocytes, and nucleated red corpuscles. Poikilocytosis was not pronounced.

The patient was given large doses of arsenic, at times enough to produce toxic symptoms, and improved somewhat. Later he ate raw beef bone-marrow until he sickened. During this period there was considerable improvement in every way. He next took a glycerin extract made from calves' ribs, together with arsenic, and continued to improve, though slowly. He was quite comfortable during the winter of 1894–95. In February, 1895, he sustained an injury and then had an attack of bronchitis, in consequence of which his condition became worse, and in April, 1895, he was again quite weak and had considerable dyspnea, his blood showing 1,000,000 red corpuscles to the cubic millimeter, and 40 per cent. of hemoglobin. He was treated with arsenic, but took his medicine irregularly and grew steadily worse.

In June, 1895, he was admitted to the Howard Hospital in an extremely weak condition. The blood showed 600,000 red corpuscles to the cubic millimeter and 25 per cent. of hemoglobin. There was marked poikilocytosis, many large nucleated corpuscles, and some hemoglobinemia. He became wildly delirious and had to be restrained in bed; his stomach refused every form of food. Arsenic had been given in large doses. Bone-marrow jam was now administered in doses of one, two, or three teaspoonfuls, four to five times daily, and was well retained. At once there was manifest improvement, and after a month the patient was seemingly as well as ever. The blood, however, showed only 1,500,000 red corpuscles to the cubic millimeter and 45 per cent. of hemoglobin.

The man left the hospital, refusing further treatment. His condition again grew serious in the autumn, and in December, 1895, he stopped work. This attack was gradual in onset, the patient growing weaker and weaker. He entered the University Hospital June 8, 1896, presenting the characteristic features of marked pernicious anemia. His color was yellowish, the subcutaneous tissues were flabby, there was puffing beneath the eyes, and the vessels of the neck throbbed. There were venous and arterial murmurs. The heart was somewhat increased in size, and there were murmurs at the apex and base. The blood showed 1,100,000 red corpuscles and 3,125 white corpuscles to the cubic millimeter, and 20 per cent. of hemoglobin; there were nucleated red corpuscles, microcytes, and macrocytes. The urine was light-colored, with a specific gravity 1.005, and contained no albumin or sugar. The man was given the preparation of bone-marrow he had before received, but there was no improvement noticeable; on the contrary, his condition deteriorated from the first. For several days this was gradual, then a sudden change set in, and he died after a few days.

The autopsy showed characteristic changes of pernicious anemia—extreme fatty degeneration of the organs, violaceous color of the bone-marrow.

Case IV.—Mrs. B., aged about sixty, had been healthy the greater part of her life. In childhood she had had measles, but no other illnesses. She was married at twenty-four, and had four children; there had never been any difficulty in or after any of her labors. She had had hemorrhoids when she was fifty, and had lost some blood now and then since that time. Her health was good until January, 1895, when her daughter noticed that she was growing mentally slow and somnolent, and she complained of numbness in the feet. Dr. A. J. Bevan was called, and found her pale and greatly weakened; dyspnea followed exertion, and several times she had slight syncopal attacks.

I saw her with Dr. Bevan somewhat later, and found the conditions noted. Her color was rather yellow than white, and the conjunctivæ were yellow. She was mentally slow and apathetic, taking little interest in her surroundings.

The drop of blood as it flowed from the finger was extremely thin and presented the characteristic appearance of meat-washings. The red corpuscles

numbered 1,142,000 to the cubic millimeter, and the hemoglobin-estimation was 25 per cent. of the normal; there was no leukocytosis; the corpuscles were irregular in shape and size, and nucleated forms, both large and small, were present in rather considerable abundance.

The patient was put upon treatment with bone-marrow jam, but she steadily grew worse; arsenic was then given in conjunction, but despite the treatment she sank and died.

There was no autopsy.

It would be a grave error to suppose that the treatment of pernicious anemia was satisfactorily fulfilled by the administration of one of the "specific" remedies and the regulation of the ordinary details of hygiene. There are other and important indications, and at times I am sure that arsenic or bone-marrow would prove of little use unless auxiliary measures of treatment were instituted at the same time. First of all, I believe it is necessary to regulate the circulation and to consider the quantity of blood. Much remains to be learned regarding the circulation of blood in the tissues, though we have learned enough to know that frequently there is stagnation of corpuscles, and that therefore but a part of the blood-corpuscles may be circulating and functionally active. It is of prime importance, therefore, in the treatment of a severe anemic disease, such as the one under consideration, that all of the available corpuscles —none too many at best—be brought into the circulation and rendered useful. For this purpose massage is of great value. It has been pointed out by a number of observers that the corpuscles of the hand held in air number from five to ten or fifteen per cent. less per cubic millimeter of blood than do those of the toe or other dependent parts. In my own experiments in this direction I have found a uniform excess of from eight to ten per cent. in the blood of the toe, and practically a similar excess of hemoglobin. Recently J. K. Mitchell demonstrated the advantage of massage to equalize the circulation, and found the number of corpuscles to be thereby quite uniformly increased, even in the most pronounced forms of anemia. It is therefore clear that in the treatment of pernicious anemia, rest in the horizontal position (which will favor the maximum effect for the cardiac action) and massage (which will return to the circulating blood and to usefulness a large proportion of corpuscles) are of considerable importance.

Next to these measures it is of importance to consider the question of quantitative anemia. Unfortunately there is no clinical method available for the determination of the quantity of blood; but the difficulty with which the blood flows from incisions, and the general desiccated condition of the patients in some cases, particularly towards the end of the disease, leave little doubt that reduction of the blood-mass plays some part in the pathology of the affection, though perhaps not so frequently as is the case in certain other forms of anemia. Near the end of the disease the patient's condition may be endangered by this reduction in the quantity of blood and the consequent failure of adequate circulation, more than by deterioration in the quality of the blood, and measures are called for which will increase the blood-mass. Injections of large quantities of water or of weak saline solution into the large bowel have the double advantage of stimulating peristalsis and thus of improving the general circulation, and perhaps at the same time removing from the system noxious substances, and also (a greater advantage) of supplying a certain amount of liquid to the empty vessels. In one case of pernicious anemia which has come under my observation, there was rapid and unmistakable improvement from the first administration of colonic douches; and while to an extent this improvement was ascribable to improvement in local conditions of the colon, to a large degree it was, I think, owing to absorption of liquid from the bowel.

In certain cases it may be of advantage to substitute for colonic injections hypodermic or intra-venous injections. The latter form commends itself particularly in cases in which the circulation has become considerably enfeebled, and absorption of the water is therefore unlikely to occur speedily from the subcutaneous tissues or from the bowel. These methods of improving the circulation by increasing the quantity of the

circulating medium are, I believe, of incalculable advantage in many cases, and failure of arsenic at times is due to the fact that such measures have not been taken to improve the circulation and make the further action of the specific remedy possible.

Brackenridge, von Ziemssen and others have recently advocated transfusion with defibrinated blood, but there seems little reason to believe, in the light of our present knowledge, that this procedure has any advantage over simple saline injections. The corpuscles introduced with the blood probably undergo destruction rapidly, and it is doubtful whether they are functionally active even for a short time.

The treatment of the underlying affections which perhaps act as the immediate causes of the disease, or which influence unfavorably the progress of a case, comprehends attention to every detail of the patient's physical condition. In particular, however, it is important to consider the question of intestinal antisepsis and other treatment directed to the gastro-intestinal tract. The diet should be so selected that the food may be readily digested and that it may undergo as little decomposition as possible. Liquid food, and particularly milk, will prove most useful. In many cases it is of advantage to have the foods predigested. The quantity at a meal should be small, but food should be given at frequent intervals. Hydrochloric acid and bitters may be used to aid digestion.

Finally, if our speculations regarding the nature of the disease are correct, and the prime cause is gastro-intestinal fermentation, it should be possible to influence favorably the course of the disease by measures directed to the prevention of fermentation in this tract. This has undoubtedly been done in a number of cases. I have already referred to the satisfactory results obtained from colonic lavage in one case; and although this was partly due to the absorption of liquid from the bowel, it was due also, to some extent, to the mere cleansing effect of the injections. Certainly this method of treatment offers sufficient hope of beneficial results to warrant its more extended introduction. With careful manipulation it is easy to flush the entire colon with water, and probably also a large part of the small intestine; and gastric lavage may be practised with but little inconvenience. This treatment is particularly advisable in cases in which alternating constipation and diarrhea or excessive vomiting with a fermenting condition of the vomited materials give evidence of the gastro-intestinal disturbance.

Intestinal antiseptics, such as salol, hydro-naphtol, and the like, have been employed, and Gibson in particular has reported good results from this mode of treatment. The failure of intestinal antiseptics to control fermentative processes in other affections, however, makes their use less advisable in pernicious anemia than theoretic deductions would lead us to expect.

The treatment of pernicious anemia in association with intestinal parasites is clear and direct. It consists in the administration of remedies such as thymol, santonin, or other anthelmintics, and the subsequent use of tonics, arsenic and iron.

In conclusion, I would repeat that pernicious anemia is probably a hemolytic disease, of gastro-intestinal origin, dependent upon fermentative or putrefactive changes occurring in the stomach and bowel; that the treatment calls for remedies of a specific nature and for measures directed to the improvement of the general circulation and to the prevention of gastro-intestinal fermentation. In the present state of knowledge, arsenic is the remedy on which most reliance may be placed. Bone-marrow has seemed to give results in a number of cases, but these have not yet been sufficient to furnish ground for an accurate opinion.

The Treatment of Hemorrhoids.

A novel procedure for the treatment of hemorrhoids is recommended in a German publication. It consists in painting the nodules once daily with a 2-per-cent. solution of nitrate of silver, which causes a gradual reduction in size without the least pain. In the cases reported the tumors had entirely disappeared in the course of one or two weeks.

CURRENT LITERATURE CONDENSED.

Food Inspection.[1]

The enforcement of rigid and efficient food inspection has shown itself to be of great value in a large city, and while some zealous officers or inspectors may have done injustice to dealers, still, on the whole, this method of protecting the public against bad food supplies has been of the greatest benefit.

Milk was one of the first articles of food to receive close attention, and now an inspector of bakeries in Baltimore will, it is hoped, remedy some of the existing evils in that industry.

While the outside of a loaf of bread may reach a very high temperature in the process of baking, it is doubtful if the center of the loaf is always thoroughly sterilized, and hence any dirt or impurities in this part of the bread may not be deprived of their harmful properties, and one of the acts of the bakery inspector is to look after lack of cleanliness. It has often been reported that bakers sleep on their bread boards in small, badly-ventilated bake shops, and it is this glaring wrong that will first be righted. Then bakeries in dark cellars and unhealthy places will no longer be allowed.

The city chemists will look for poisonous and dangerous products in fancy cakes and candies, and for the detection of such things the municipal laboratories of chemistry and bacteriology will be called into requisition. Now, not only is the milk inspected, but the dairy stables will be carefully looked into, and in the near future a veterinarian will be added to this food detective force.

When such work is undertaken in a truly honest way by competent men, it can be easily seen that much benefit will redound to the consumer of these products, and no one but the unclean and dishonest dealer will object to any reasonable inspection.

The food detective force in some foreign cities is a very important part of the municipal government, and demands large appropriations, which the city fathers of those enlightened places find it economy to pay. Unfortunately, the inspection in Baltimore can only be carried out within the city limits, and in the case of dairy farms which are outside of this line, some are near enough to supply milk to the city, but not near enough to come under the inspection rules.

As years go by, these small but important beginnings will gradually grow until the dealer who sells impure goods, or who maintains a filthy and unhygienic dairy farm, will be compelled to reform, and the supply of pure and wholesome articles of food, such as bread and milk, will be cheapest in the end.

[1] Editorial, *Maryland Medical Journal.*

Scurvy in Bottle-Fed Babies.

Scorbutus is one of those diseases with which the practitioner of to-day has but little clinical acquaintance, says Frank W. Garber in *Therapeutic Gazette*, 1896, xx, 226. The older physicians, and especially those of seaboard towns, or those who have served in the army or navy, can recall it as one of the scourges of both land and sea. To have learned its causes and thoroughly provided against them—for it is only now and then in these days that a case is found—seems one of the most splendid monuments scientific preventive medicine has erected to itself.

Though the history of scorbutus is coexistent with the history of medicine, it is only during the last twenty years that the disease has formed any part of medical literature relating to infancy or childhood. It is probable that cases always existed among infants or children where the peculiar dietetic vices necessary to its production existed, but it is also probable that the increased use of artificial baby-foods has been in some way related to the more frequent appearance of the disease in these latter years. It is altogether likely that many of us have met scorbutus in its incipiency among infants and have not recognized the nature of the trouble.

Let us summarize briefly the common symptoms of the disease as we find them in the class of cases under consideration: The baby has a worn and fretful look, a bloodless and often muddy skin;

its eyes may be bulging, with ecchymotic patches in the upper lids, or there may be ecchymosis without the prominent eye; the child is peevish and often screams at your approach; the breath is foul; the gums are swollen, tender, and often ecchymotic — they extend down over the teeth, and bleed easily when touched; the tongue is covered with a dirty yellowish-brown coat; there is general muscular tenderness; the spine is often painful or sensitive to touch; the child is disinclined to sit up without support, and moves as if in pain; the thighs are swollen, very tender, and often have a shining appearance; there is often thickening of the lower end of the femur; sensation is acute, but muscular power is weak; there may be immobility of the lower limbs amounting almost to paralysis; there is a tendency toward easy fracture of the femur, the break occurring near the epiphysis. There is sometimes general purpura; indeed, these purpuric spots may be your first intimation of the constitutional vice lying back of them.

The pathology of scurvy, whether in infant or adult, is obscure. In the baby, one lesion has been found with marked uniformity where post-mortem examinations could be had, viz, the extravasation of blood between the bone and periosteum. Wide areas of bone are often thus stripped and left with small nutritive supplies. This accounts for the tender and swollen thighs. The swollen and bleeding gums and the exopthalmos are also due to extravasations of blood. An examination of the blood of those suffering with scurvy has shown a notable lessening of red corpuscles and of coloring matter, in some instances amounting to over half the normal.

In the baby the cause of scurvy is probably always dietetic. Just how the condition is brought about would be hard, and perhaps impossible, to say. The change is probably at bottom a chemical one. In the absence of fresh foods containing certain salts and acids, there seems to be a weakening of tissue metabolism. It is chemico-physiological—the absence of the chemicals contained in fresh vegetable food or its derivatives determining the phenomena of scurvy, or their presence producing health.

The question of prevention is more than one of fresh foods; it is one of fresh foods given in such form as to insure as little chemical change from a certain (not yet well defined) standard as possible. For instance, it has been found that scurvy may follow the use of fresh sterilized milk. Either with the application of heat has come about some new chemical combinations, or there may have been a destruction of germs necessary to chemical changes demanded by the baby organism in its food.

There has been a too ready disposition to recommend some of the many prepared baby-foods on the market, or to prescribe condensed milk. So commonly is this done that many parents put their bottle-fed babies on these articles without consulting the physician at all. These methods are not creditable to the physician, and, in the light of our recent knowledge, are most culpable. There may be instances—and these are especially liable to occur in our large cities—where fresh, wholesome milk is not to be had, where it becomes necessary to prescribe some one of the prepared foods. When this is done, however, the parents should always be instructed to give the child daily fruit juice, fresh-meat juice, or a small amount of some fresh vegetable broth. With these precautions, no doubt prepared foods may be safely and often advantageously given.

The treatment of scurvy in babies has already been quite fully outlined. It is evident that, the cause being improper diet, the treatment should be dietetic. Drugs play an important rôle. Bitter tonics, acids, and iron may be used, but nothing can take the place of fresh fruits, vegetables and meats. The form in which these shall be given must be determined by the conditions of the individual case.

Twenty-two cases of whooping-cough treated with inhalations of ozone are reported in the *Bulletin Medical*. It acted immediately in diminishing the frequency, the length and severity of the paroxysms; it shortened the course of the disease remarkably and the general health improved at once.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Volvulus and Forced Enemata.

Volvulus can occur in consequence of postponed defecation when the need of defecation is imperious, being produced by peristaltic and antiperistaltic movements. Sudden severe pain, well located, with meteorism, are the best symptoms. The treatment consists of forced enemata. Dr. Prioleau (*Bull méd.*, 1896), uses three, four, or five litres (with Esmarck's douche) of a watery solution of glycerine (100 ‰) and capillary punctures of the overdistended intestines, followed by abdominal massage.

Potassium Permanganate in Poisoning, with Phosphorus.

Dr. Ansal (*Medizin. Nenigk.*, April 20, 1896) recommends kalium hypermang. as the most efficacious antidote in poisoning, with phosphorus, which, transformed into acid-phosphor, is relatively not harmful. One-fourth to one-half of a litre in solution of 2.0–4.0: 1,000.0 must be taken at once and repeated in a half an hour. Dr. Hajnos had success even a half an hour after the poisoning. Dr. Erdoes administered two hours after the poisoning a wine-glass of 1‰–2‰ every five minutes till four litres were consumed; a hypodermatic injection of apomorphin was also given, and the patient recovered.

Treatment of Hemorrhoids.

Dr. Schächter (*Mediz. Nenigk.*, 1896) uses with good results interstitial injections. Carbol. acid and glycer., āā., four or eight drops are injected into each hemorrhoid. Attention is to be taken that the fluid should not touch the surrounding skin. In nervous persons this injection must be preceded by that of cocaine. In forty-one cases (males) the author was very well satisfied with this treatment.

Threatening and Unavoidable Abortions.

Dr. Marocco (*Lemaine Méd.*, 1896) recommends in unavoidable abortion the tamponing of the vagina with gauze in glycerin and the taking internally of the following powder:

℞

Phenacetini	0	3 (gr. v).
Morphini mur.	0	01 (gr. ⅙).

S.—One powder every hour.

With this treatment the abortion is terminated in twenty-four hours without pain.

External Use of Chloral.

Dr. Brodnax (*Lemaine Méd.*, 1896) recommends the following formula for external use of chloral:

1. For pruritus, followed by urticaria, or any other eruption:

℞

Chloral		
Acid carbol.	āā 0	5 (gr. x).
Ol. olivae	50	(℥jss).

2. For toothache:

℞

Chloral	
Camphor	
Ac. carbol	āā 5.0 (℥jss).
Glycerin	

A piece of cotton soaked in this solution is put on the aching tooth.

3. For earache:

℞

Chloral		
Camphor		
Acid carb.	āā 0	5 (gr. x).
Ol. ricini	15	0 (℥ss).

Some drops of this solution are put into the ear; the solution must be warmed each time.

4. For acute coryza:

℞

Chloral	0	5 (gr. x).
Ol. ricini	15	0 (℥ss).

After having cleaned the nasal cavities, wash them with this solution.

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

Anti-diarrheic Action of Tannin.

Bachus (*Gazette Botkin's, St. Petersbourg*, 1896) administered tannin to twenty-three adults and forty-seven children. In only five cases the author did not succeed and then because these patients were affected with tuberculosis and tuberculous ulcers of the intestines. In all other cases the diarrhea stopped in two to three days.

The dose for adults was 0.5–0.8 (gr. x –gr. xvi); for children, 0.25 (gr. v). Of course a regular diet must be enjoined at the same time. For some children this treatment was preceded by calomel in doses of 0.008–0.01 (gr. $\frac{1}{10}$–$\frac{1}{4}$) each powder, three powders a day.

Treatment of Cirrhosis Hepatica with Urea.

Prof. Klemperer (*Berlin Klin. Wocher.*, January, 1896) obtained a very good result from urea in cirrhosis hepatica.

Ascites in cirrhosis of the liver yields but slowly to any medical treatment. The great hope which the author had in early tapping of the abdomen did not give the expected result, but, on the contrary, he observed harmful consequences. He then abandoned this treatment and had recourse to a treatment favorable to a slow reabsorption of the ascitic fluid, *i. e.*, calomel and digitalis, which gave satisfactory results. But even the last are not without objection; they provoke stomatitis, albuminuria, and inflammation of the digestive tube. Dr. Klemperer used urea in two cases of cirrhosis accompanied by enormous ascites. The patient's urine began to increase and the dropsy decreased. The urea is administered from the beginning in doses of 10 grm. (℥iij) *pro die*, and in some days 15.0 (℥ss) and even 20 grm. (℥vj). The last dose is to be taken during two to three weeks. The following formula is proposed by the author:

℞

Ureæ puræ	10 |	0 (℥ijss).
Aq. destill.	200 |	0 (℥vj).

M. S.—A tablespoonful every hour.

Anti-asthmatic Property of Caffein.

According to Skeritt (*Wiener Med. Presse*, January, 1896) caffeinum citratum is a very useful remedy for asthma, especially in the morning. 0.3 grm. (gr. v.) of caff. citr. is administered every four hours in powder or solution. For preventing an access of the disease it is sufficient to take at bedtime 0.3 to 0.6 grm. (gr. v–x) of caffeinum. In case the patient cannot foresee the attack let him take the remedy as soon as he begins to feel the oppression in the thorax and then continue to take it regularly during the day. Continue the treatment for several days after the attack is over.

Broncho-Pneumonia of Children.

The prognosis (*Le Gendre Semaine Méd.*, 1896) depends upon the children's age, hereditary defects and general and local conditions. It is very serious and becomes very unfavorable when the patient is of a tuberculous nature. Often broncho-pneumonia follows measles, whooping-cough and grip, and the prognosis depends upon the nature and gravity of the primary disease. Blisters, antimony, aconitum, morphinum, antipyrin and even sulfate of quinine must be proscribed. All these remedies will not combat the symptoms, but will only weaken the patient. Serum therapy is not yet sufficiently known for a permanent decision. Give the patient the best hygienic conditions possible, keep the mouth and the nostrils clean, maintain the functions of the heart with injections of caffeine and administer baths, at first warm, and later lukewarm and cold. The advantages of such a treatment are decreased dyspnea, good appetite and good sleep.

Quinosol, a New Antiseptic Remedy.

Kossmann (*Centralbl. f. Gyn.*, 1895) praises quinosol highly in gynecology. As a succedaneum to carbolic acid and sublime, quinosol has never given rise to auto-intoxication or eczema. Employed in powder for wounds with abundant secretion, it has no irritating nor caustic action. Moreover, it never injures the hands, which can, without any danger, be washed several times a day with a solution of 1 per 500. Kossmann thinks that quinosol would be very useful to midwives, to whom it is very dangerous to trust sublime.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, AUGUST 8, 1896.

EDITORIAL.

VIVISECTION.

A somewhat belated copy of *Our Animal Friends* deals at length with the subject of vivisection. The very reasonable attitude taken by this magazine is in refreshing contrast to the exaggerated utterances of many well-meaning and tender-hearted persons.

The leading article discusses a bill submitted to the New York Legislature, "To prohibit vivisection and dissection in the public schools of this State." Since, after careful inquiry, the journal has found that vivisection has not been and is not likely to be practiced in the public schools of New York, it expresses the eminently sensible opinion that the proposed measure is supererogatory, and is liable to interfere with the efficiency of the present section of the penal code prescribing punishment for all sorts of cruel acts to animals. So far as dissection of the dead animal is concerned, it believes that the good taste of individual instructors and the advancement of special classes in physiology, should be considered.

In a second article, entitled "The Medical Profession and Vivisection," comment is made on a similar editorial in the *Medical News* of December 14, 1895, and we are pleased to note that the opinions of both journals, representing the conservative views of workers

in entirely different fields, are practically harmonious.

The editor of *Our Animal Friends* has voiced our own sentiment when he says: "Speaking personally, we could not make ourselves in any degree responsible for *any* painful physiological experiment, however beneficial its alleged motive might be; but, on the other hand, we know that the whole medical faculty, virtually with one voice, maintains that such experiments are at least occasionally necessary and that they have resulted in the alleviation of suffering to man and beast many thousand times greater than that which they have caused." But we do not agree with the statement. "On the other hand, we have constantly maintained that all needless experiments upon living animals by students, for the purpose of acquiring surgical dexterity, is unnecessary, and ought to be prohibited; that the repetition of experiments before classes of students for the mere purpose of demonstration is likewise useless and ought to be prohibited."

We believe that the consideration of this question—save in the case of immature and elementary students—ought to be shorn of all esthetic sentiment and limited only with regard to cruelty. The ordinary vivisection is simply an operation, performed under deep anesthesia. It lacks the curative aim of an operation on the patient, but it also is devoid of the mental anguish of anticipation and of whatever discomfort attends the post-operative period. The experimental operation is no more cruel than the practical one, and neither from the analogy of the human being nor from observation of animals, is there reason to believe that convalescence is particularly painful. The lower degree of mental and nervous development of the animal, and the fact that he is depressed neither by the shock of accident nor by the ravages of disease, make it probable that he recovers from the operation with a very moderate degree of discomfort. In some institutions the same dog has been used for a number of operations; he has submitted to the later ones with less apparent dread than when he first took an anesthetic, and has remained on friendly terms with those whom he would certainly regard with fear and hatred if he had suffered as the humane societies would lead us to believe. All things considered, it must be conceded that the victim of vivisection suffers less than the animal killed for food or in sport, or by accident, or the one which is "relieved of its misery by the agent" of the Humane Society. Hence, we believe that the enormous advantages of objective over descriptive teaching should accrue to the professional or advanced scientific student of physiology. We are also inclined to think that it is more humane and sensible for a surgeon to acquire requisite skill by operations on unconscious animals than to mangle human tissues.

Within comparatively recent times animals have become the subject of experiment with drugs, bacteria, and the chemical products of the latter. Such experiments rarely cause acute pain, the majority do produce moderate discomfort, while a considerable minority are entirely painless or even agreeable. The objection is frequently made that experiments in animals have accomplished nothing. We are inclined to admit that the ordinary physiological experiment has no direct bearing on practical therapeutics, but it does make better physicians for the plain reason that a man can better treat a diseased organ when his conception of the use of that organ in health is exact and vivid. As far as experimental operations are concerned, the man who denounces them as useless

is either an ignoramus or a liar. It is a matter simply of record—of history—that the surgery of the brain, the stomach, the intestine, the biliary passages, the refinements of the use of the ligature and suture, particularly in the peritoneum, depend in the most direct manner on vivisections. As to the study of drugs and bacteria, the animal-room is universally regarded as an indispensable adjunct of the laboratory, since in it are made the final and discriminating tests.

Class-room demonstrations without the use of anesthetics ought not to be allowed; in fact, it is doubtful if strictly painful experiments on animals have been of appreciable practical value. No student of common sense needs to have animals frozen to death in his presence in order to prove that a sheared animal will die more quickly than one covered with hair. Nor did the celebrated French brute who inflicted untold agonies in order to determine the exact point at which heat-rigor was produced accomplish anything for humanity or science. Such experiments have no practical issue, nor do they establish a principle; their instigators may act in good faith, but they have not the grasp upon physiological science that warrants society in allowing them to continue their cruelties, and there is ground for the suspicion that their devotion to science is but the cloak of a morbid mental craving to inflict and gloat over the sufferings of defenceless animals.

A Good Opening for a Young Physician.

Rev. G. C. Stull, a prominent Methodist minister of Butte, Montana, informs the REPORTER through a friend that a young married physician is wanting for a good practice and the management of drug store in connection with a business man who will stock the store on favorable terms.

This looks like a good opening for a young physician of character, familiar with the drug business. Full information may be obtained by addressing Rev. Geo. C. Stull, Butte, Montana.

ABSTRACTS.

POTTS' DISEASE OF THE SPINE.*

It is now generally accepted that this disease is due to the tubercle bacillus, indeed, tuberculosis of the spine and tubercular ostitis of the spine, are almost as well known terms as Potts' disease of the spine itself. It is characterized by inflammation and destruction of the bodies of the vertebræ, and the intervertebral disks, the anterior support of the bodies being removed, the upper part of the spine falls forward, and we have a resulting angular deformity of the back, more or less marked, according to the location of the mischief, and the amount of destruction that has taken place. As a result of this destructive inflammation which you may call caries, ostitis or what you will, we have a collection of matter, composed of broken-down osseous and other tissues, resembling pus in general appearance, but being, as a rule, distinctly tuberculous in character, unless infected as a result of accident or surgical interference.

The predisposing causes of this malady are heredity, injury, bad hygienic surroundings and age. It may occur in the wake of one of the exanthemata. It is essentially a disease of childhood, those between two and ten years being more

*J. W. Macfarlane, M.D., Pittsburg, before the Austin Flint Medical Club, Pittsburg, May 26, 1896.

susceptible. There are, of course, exceptions to this rule. In adults it is often the result of injuries.

During the last six months I have seen two cases of Potts' disease of the spine develop within the wards of the West Penn Hospital.

Mr. W., aged thirty-eight years, was admitted to the hospital October 16, 1895, suffering from suppurative inflammation of the right knee joint. It was thought that thorough drainage and fixation might give him an anchylosed but useful limb. There was immediate improvement in the man's condition, but we were not successful in securing anchylosis. There was a total arrest of suppuration, but we had preternatural mobility at the knee, with some backward dislocation of the head of the tibia. The limb being useless in that condition, it was decided to give him the benefit of an excision of the knee-joint, which was performed by one of my colleagues, December 7, 1895. The patient seemed to do remarkably well for six weeks, but following that, his condition gradually grew worse, and much to our chagrin, he developed a marked case of Potts' disease of the spine as a sequence of the excision, while still confined to bed.

The excision, which up to this date, had promised well, began to suppurate profusely and all signs of union disappeared. The patient's condition became alarming, and at his urgent request, I amputated his leg at the junction of the middle and upper third of the thigh, May 13th. His pulse following the amputation was almost imperceptible, and the temperature fell to 95 degrees; he, however, rallied nicely, and on May 18th, when the dressings and the drainage were removed, the flaps were found united throughout.

Frank L., a Hebrew, aged nineteen, was admitted to the hospital May 7, 1895, suffering from hip-joint disease of the right side. He was placed in bed under extension and supporting treatment. A large abscess formed in the hip, which was thoroughly drained. In spite of all our efforts, we were never able to build him up, and he finally developed a marked case of Potts' disease of the spine at the junction of the last dorsal and first lumbar vertebræ. He left the hospital for his home unimproved. There was no doubt as to the hip-joint disease.

The symptoms will vary with the region of the spine involved. In the cervical region, the patient attempts to fix the spine as he does at other points. There may be drawing back of the head, as in opisthotonos of mild degree or it may be drawn forward; it is usually deviated, as in wryneck. The patient at times is disposed to support his head with his hands, or lean it forward upon the sternum. There is short grunting respiration; pain extending along the occipital nerves, down the thoracic or even down the brachial plexus.

Traction upon the head, carefully made, frequently gives relief, and may be a great aid in making a diagnosis. If the disease be below the second dorsal vertebra, there will be few, if any, head symptoms; the spine is kept rigid, the patient walks with care, and only taking short steps; the respiration is grunting; there are pains about the stomach. If he be requested to pick up anything he does not bend his back, flexing his limbs instead, and supporting the upper part of his body with his hands upon his thighs; he does not jump off chairs as other children do, but slides down, using his arms as much as possible to guard against any sudden jar.

Sleep is disturbed by moans and sharp cries, which should not, however, be confounded with the shrieks of hip-joint disease. The patient is inclined to lie upon his stomach, as by so doing he gets the benefit of a certain amount of extension, which adds to his comfort; if he is in the dorsal position and wishes to get up, he first turns upon his face, and then rises.

As the lumbar region is approached disturbances of gait are more marked, and when these vertebræ are involved there is likely to be irritation of the bladder. Contractions of the psoas and iliacus muscles are likely to take place with resulting flexion of the thigh upon the abdomen, which is liable to be mistaken for hip-joint disease. This can, however, as a rule be quickly eliminated from the case, if a little care is taken. It is impossible, in both cases, if there is great flexion, to bring either limb down upon the bed, but in the flexion of Potts' disease, if the flexed limb be car-

ried towards the abdomen it can be moved freely in the joint without causing the least amount of annoyance, whilst in hip-joint disease rotation will be difficult or impossible and attended with excruciating pain.

The angular deformity or kyphosis which occurs may be confounded with that of rickets; the former as has been stated in angular, and whilst the compensating curves may be affected by extension, the angularity and rigidity remain; whereas in rickets, if the child be placed upon a person's knees, face downward, the kyphosis or backward curve will be converted into an anterior one or that of lordosis—showing the spine to be flexible.

ODOR AS A SYMPTOM OF DISEASE.*

The chief functions of the nose are: (1) Respiratory; (2) olfaction; (3) resonator to the voice; (4) office of regulator of the aëration of the middle ears.

The normal daily secretion of the nose is about one pint, which comes chiefly from the turbinated bodies, and is used in moistening the air before it reaches the lower respiratory organs. The nasal chambers heat the air for respiration and air in modulating and modifying voice sound, giving it proper resonance. Infinitesimal odorous particles dissolved and floating in the air are carried into the nasal fossæ and impinge upon the hairy terminations of the nerve filaments; thence the sensation is conveyed to the olfactory centres. It is the mucous membrane of the upper half of the nasal fossæ that is capable of appreciating odorous impressions.

Like the other special senses olfaction may be cultivated by attention and practice. Experts can discriminate qualities of wines, liquors, drugs, etc.

Diseases have their characteristic odors. Persons who have visited many different insane asylums recognize the same familiar odor of the insane. General paralysis of the insane affords us a typical example. It is a true cerebral disease, physiologically, pathologically, and psychologically. In it the substance of the convolutions of the brain—the highest in quality and function of any organic product yet known in nature—undergoes a process of degeneration or atrophy which finally invades the whole nervous system. The nerve and mind tissue die slowly and progressively. The blood current carries the waste tissue to the lungs for aëration, and the result is the foul characteristic odor of this disease.

It is not insane asylums alone, but prisons, jails, work-houses, armies in camp, churches, schools, and nearly every household that have their characteristic odors. It is when the insane, the prisoners and the soldiers are aggregated in large groups or battalions that their characteristic odor is recognized by our much-neglected "smeller."

Most diseases have characteristic odors, and by the exercise of the sense of smell they could be utilized in differential diagnosis. For example, favus has a mousey odor; rheumatism has a copious, sour-smelling acid sweat. A person afflicted with pyemia has a sweet, nauseating breath. The rank, unbearable odor of pus from the middle ear tells the tale of the decay of osseous tissue. In scurvy the odor is putrid; in chronic peritonitis musky; in syphilis sweet; in scrofula like stale beer; in intermittent fever like fresh-baked brown bread; in fevers ammoniacal; in hysteria like violets or pine-apple. Measles, diphtheria, typhoid fever, epilepsy, phthisis, etc., have characteristic odors.

The acuteness of the sense of smell is far greater in many of the lower animals (dogs, for example) than in man, and they employ it in guiding them to their food, in warning them of approaching danger, and for other purposes. The sphere of the susceptibility to various odors is more uniform and extended in man. The sense of smell is capable of great cultivation. For example, in the well-known case of James Mitchell, who was deaf and blind from birth, the sense of smell was his principal means of distinguishing persons and perceiving the approach of strangers.

* J. H. McCassy, M.D., C.M., M.A., Dayton, Ohio, in *Cincinnati Lancet-Clinic.*

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting held April 8, 1896, Hall of the College of Physicians.

The President, DR. J. C. WILSON, in the chair.

DR. ALFRED STENGEL read a paper, entitled

"THE TREATMENT OF PERNICIOUS ANEMIA."

DR. JAMES TYSON said that, notwithstanding the large amount of information that has been yielded by modern studies upon this subject, pernicious anemia must still be regarded as a *terra incognita*. It was formerly held that pernicious anemia is an affection of the blood-making apparatus, but most clinicians have come gradually to the view held by Dr. Stengel, that it is an hemolytic affection. Among reasons for this may be mentioned, in the first place, the experiments of Hunter, so amply confirmed by those of Griffith and Burr, showing the deposition of iron in the liver, representing there the destroyed corpuscles. Secondly, the condition of the blood in which there is a comparatively large amount of hemoglobin, with a proportionately small number of corpuscles pointing to a destruction of corpuscles, leaving a relatively large quantity of hemoglobin in solution. A most important reason, however, is the etiologic factor. The frequent association of the affection with long-continued, unyielding, gastro-intestinal disease is attested by the experience of many. Dr. Tyson referred to the case of a man who was a confirmed subject of indigestion, which was ascribed to all sorts of causes. At the end of twenty-five years, he fell into a condition of pernicious anemia. The hemolytic nature of the disease is also attested by therapeutics. While it is true that it is not known in what way arsenic acts, it is known that it does good and it must act in some way as a blood-builder. Dr. Tyson had personal knowledge of at least one case in which the symptoms of pernicious anemia disappeared under the use of arsenic.

Chlorosis is not such a widely different disease. The fact that some cases of chlorosis seem to pass into pernicious anemia raises the thought that the two disorders do not start from widely different bases. Chlorosis is sometimes present in the early history of a case that later passes over into pernicious anemia. It is true, there is a reversal of the relations of the hemoglobin and the corpuscles. Ignorance still prevails as to the nature of the hemolytic substance. The modern studies in the direction of toxic substances may help somewhat, but there is considerable yet to be learned. Dr. Tyson was not hopeful of anything very encouraging from the use of bone-marrow as a remedy. Clinical experience substantiates this view.

THE PRESIDENT related a marked case of pernicious anemia with a reduction in corpuscles to 800,000, and a hemoglobin-percentage of about twenty per cent. Most remarkable improvement occurred in a very short time under the use of progressively increasing doses of arsenic, light systematic massage and oxygen. The patient improved to such an extent that the arsenic was temporarily suspended and bone-marrow was administered. The preparation used consisted of two parts of bone-marrow and one part of glycerin, rubbed up to a paste in a mortar, and this was spread upon bread. In the treatment of profound anemia, the clinician should not be bound to any one method of treatment. Among other things, a carefully regulated diet is most important. Measures to increase quantitatively the amount of blood in circulation, such as the use of large quantities of food and of the normal salt-solution, hypodermically, together with light systematic massage and regulated exercise, are very important in the management of these cases.

DR. D. D. STEWART referred to two cases that were treated with bone-marrow—one with success and the other without any result. One case was considered as moribund. Every method of treatment had been tried, and the patient was very low. Bone-marrow was given in quantities as large as he could take, with extraordinary result. The man was soon up and about and assisted in some of the duties of the ward. He continued in that condition until about six weeks afterwards, when he left the hospital. The other case did not improve at all.

DR. J. P. CROZER GRIFFITH said that in the investigation by Dr. Burr and himself, a few years ago, with regard to the iron in pernicious anemia, an attempt was made to determine whether the increase in the red marrow was the cause or the effect of the disease. Statements had been made by two European investigators that bone-marrow could be made red by bleeding, but had never been confirmed as far as could be discovered. Dr. Burr carried out experiments on dogs in an endeavor to prove this. He succeeded, by bleeding a dog profusely, almost to the point of death, in producing red bone-marrow in the long bones. This was proof that the production of the red bone-marrow was the result of the anemia and not the cause of it. The bone-marrow was red merely because it had become active.

The statement that during the use of arsenic the hemoglobin increased more than the corpuscles, seems to be a proof that the hemolysis was still going on. The arsenic was curing the patient by stimulation of the corpuscle-producing organs, but in no way checked the blood-destruction and the consequent excess of hemoglobin over red-blood cells.

DR. STENGEL said, in conclusion, that extravagant claims had been made for bone-marrow as a remedy by some, while, on the contrary, it had been regarded as useless by others. The number of cases is so small that a decided opinion can hardly be formed; but, apparently, the agent is of doubtful value. In one of the cases reported it acted marvelously well to all appearances; in another it was without effect. Arsenic seems to stimulate hemogenesis and it is necessary to continue its use for a long time—perhaps for years. Other remedies or methods of treatment may be necessary, and it is to some extent a matter of regret that arsenic acts so well in most instances. There are cases, undoubtedly, in which this remedy alone is useless and in which a knowledge of all other plans of treatment is required.

PERISCOPE.

MEDICINE.

Formulæ.

Face bleach:

℞

Mercuric bichlorid, in powder	gr. iv
Calomel	ʒss
Cologne spirit	ʒss
Water	ʒijss
Glycerin	ʒvj
Essence bitter almonds	ʒss

When applied, to be well shaken.—*Fenner.*

Parsen's local anesthetic:

℞

Chloroform	parts 12
Tincture of aconite	parts 12
Tincture of capsicum	parts 4
Tincture of pyrethrum	parts 2
Oil of cloves	parts 2
Gum camphor	parts 2

Dissolve camphor in chloroform, add oil of cloves, and, lastly, the tinctures. This is credited with almost magical local anesthetic effects. —*Medical Age.*

For nephritis:

℞

Tinct. grindelia robustæ	ʒj
Tinct. convallariæ majalis	ʒijss
Tinct. scillæ	ʒi½

M. Sig.: Fifteen drops thrice daily.
—*Huchard.*

For eczema of the vulva:

℞

Tinct. opii., Sodii. bicarbonat., each	8 parts
Potassii bicarbonat.	4 parts
Glycerin	6 parts
Aquæ dest.	260 parts

M. Sig.: Bathe night and morning.

The bathing is to be followed by dusting on a mixture of forty-nine parts of starch and one part of powdered camphor.—*Lusch.*

For black teeth:

℞

Pulv. potass. chlorat.	ʒiijss
Pulv. sodii boratis	
Magnes. calcinat	
Calcii carb. precip.	āāʒvij
Essent. menth. pip	gtt. x

—*La Medecin Moderne.*

For whooping-cough in adults:

℞

Bromoform	15 parts
Tincture of gelsemium	16 parts
Syrup of lactucarium	120 parts
Powdered gum arabic	a sufficiency.

M. S.: Three or four teaspoonfuls to be taken in the course of a day.—*Bancock.*

For migraine, asthma or nervous colic:

℞

Pure chloroform	
Alcohol, of each	ʒij
Morphine	gr. iv
Syrup	ʒj
Water	ʒiv

Teaspoonful every half-hour till pain is relieved.—*Journal des Practiciens.*

For dysmennorrhea:

℞

Cupri arseniatis	gr. 1/65
Tinct. pulsatillæ	Mxv
Tinct. nucis vom.	Mviij
Aq. dest.	ʒiiiss

M. S.: One teaspoonful every hour, or half-hour, until the pain is relieved.—*Lancet.*

For hay fever:

℞

Zinci valerianat	gr. i
Pil. asafœtidæ co.	gr. ij

Make pills No. I. S.: Two or three times a day.—*McKenzie.*

For hyperidrosis:

℞

Balsam peruv.	1	gr. xv.
Formic acid	5	ʒj gr. xv
Chloral hydrate	5	ʒj gr. xv
Alcohol	100	℥vj

—L. Heusner(*American Medico-Surgical Bulletin.*)

For vomiting:

℞

Bismuthi subcarb.	ʒij
Aq. laurocerasi	ʒiij
Syr. simp.	ad ʒij

Teaspoonful for an adult every three hours.—*Sauer.*

For pityriasis capitis:

℞

Hydrarg. ammoniat.	℈j
Ungt. petrolii.	ʒj

M. Sig.: Apply.—*Van Harlingen.*

For prickly heat:

℞

Hydrarg. chlor. mit.	gr. xx
Lycopodii.	ʒij

M. Sig.: Use as a dusting-powder.—*Powell.*

℞

Sodii bicarb.	ʒj
Tr. nucis vomicæ	Mvj
Tr. cardamom. compt.	fʒij
Syr. simp.	fʒij
Aq. chloroform	fʒss
Aquæ	q. s. ad. fʒij

M. Sig.: Teaspoonful every six hours.—*Eustace Smith.*

For erythema intertrigo:

℞

Calcis præcip.	gr. jss
Bismuth subnit.	gr. ℈j
Sacch. alb.	gr. iij

M. Et ft. chart. No. i. Sig.: One three times a day.—*Van Harlingen.*

For coryza:

℞

Powdered iris	
Powdered marsh-mallow	āā dr. j
Tannic acid	gr. iij

M. Sig.: One such powder to be taken four or five times daily.—*Le Progres Medical.—Ga. Eclect. Jour.*

For stimulating the scalp:

℞

Carbonate of ammonia	30 grains
Distilled water	10 drachms
Tincture cantharides	2½ drachms
Eau de cologne	10 drachms
Rum	7½ ounces
Oil of lavender	2 drops

Dissolve the carbonate of ammonia in the water, mix the other ingredients together, and add.—*Journal of Pharmacy.*

For rhus poisoning:

℞

Sodium sulphite, granular	ʒ j
Glycerin	ʒ ss
Camphor water	q. s. ad. fac. ℥ iv

—*Dr. Beringer.*

The Matter of Female Sterility Due to gonorrheal infection has been made a special study by Fehling. He claims that experience and inquiry show that 10 to 15 per cent. of all marriages are sterile, and of these over 50 per cent. are due to gonorrhea in the husband. In such cases, generally, a history of gonorrheal epididymitis is to be obtained, as the result of which the vas deferens becomes impermeable and no spermatozoa are contained in the semen. In rare cases, however, the author admits, with a comparative recent gonorrhea of the male, it is possible for conception to occur quite early after marriage, before infection takes place. In still rarer cases, especially in the unmarried, gonorrheal infection may not occur until the second or third month of gestation.

According to Weitheim, a man may have a latent gonorrhea, in which only a very few virulent gonococci remain in his urethra. During marital intercourse, these may reach the genital mucous membrane of the wife, and find there, especially if favored by frequent intercourse, a most propitious field for propagation, with increased virulence; these in turn reinfect the husband with an acute gonorrhea; thus both man and wife are mutually infected. The more recent the gonorrhea of the husband, the greater is the danger of infection for the wife. Exceptions, however, may occur; pregnancy may result with a recent gonorrhea in the husband. But while one of the results of gonorrhea in the male may be sterility, it is at the same time scarcely needful to refer to the seriousness of the symptoms which may ensue to the female as the result of gonorrheal infection. Gynecologists know too well the direful effects which gonorrhea in women may produce. The facts, therefore, in this connection, should be brought home to all those men intending to marry, who have been the victims of a severe gonorrheal attack.

To Abort an Incipient Cold when there is chilliness after exposure to draught or cold winds, dryness of the nares, or high fever alternating with chills, with rawness of the throat, give aconite, three or four drops of the tincture in four ounces of water, a drachm every twenty, thirty or sixty minutes for a few doses. It must be remembered that aconite has no place after you pass the above-described condition and the congestion has located.

If you meet one of those insidious conditions when you do not know how you took cold, no special chilliness, languid, drowsy, bones ache, flesh feels sore, dry coryza, soreness of throat, chest, infected eyes, asthenic fever, gelsemium will abort your cold in a few hours. Give same as aconite.

Camphor in broken doses, one-half to one drop doses, will readily meet the conditions given under aconite. This will readily abort colds and save a long train of suffering. These remedies are for the incipient stages.—*Journal of Materia Medica.*

The Diminution in the Natality of the French nation has become a matter of much concern, and occupied a prominent place in the discussion of the anthropologic section of the French Association for the Advancement of Science, at its last meeting. Dr. D. G. Brinton says, in *Science*, that the discussions were long and thorough, and that among other facts elicited it was seen that out of the eighty-six departments into which France is divided, in fifty-one the deaths exceed the births. The annual natality for the whole country is only 23.7 for each 1,000 inhabitants, and this number includes the still-born! To remedy this progressive depopulation, its causes must be ascertained. Dr. E. Maurel brought forward an interesting theory. He pointed out that the birth-rate is lowest in those departments where food is most abundant and cheapest. The relation between these two facts he held to be the prevalence of hereditary arthritic diathesis (uric acid diathesis), leading to diminution of reproductive vigor in both sexes, this diathesis arising from excessive alimentation. Another speaker, Dr. Pommerol, attributed the diminished natality to voluntary restriction, while others suggested the increase of religious celibacy, the laws relating to the division of property, the lateness of marriages, and the decreased reproductiveness of women.

The Non-Identity of Diphtheria in man and the lower animals is somewhat doubted by Dr. Leon Gallez, in the *Bulletin de Medicine de Belge.* He states that the bacterial proof of the non-identity of the diphtheric organisms found in man and the lower animals, such as the pigeon, chicken, calf, rabbit, cat, dog, horse and pig, is not conclusive. On the other hand, the numerous observations of the transmission of the disease from man to the lower animal, nine cases being cited from the literature upon this subject, and *vice versa*, seventy-two observations are considered by Gallez to be almost positive proof of the identity of the different organisms which have been described in connection with diphtheria in man and the lower animals. Four histories are also given in which the transmission of human diphtheria to an animal has been in return followed by its recommunication to man. While the morphology is different, it is not more so than can be explained by the variations of the Klebs-Lœffler bacillus as seen upon different culture media; likewise the symptomatology differs on account of the various anatomic peculiarities of the different species of animals in which the disease occurs. The author considers that we have in animals both an accidental form and an habitual one, the latter being merely a repetition of the culture of successive generations in the individual of the same species, the organism finally taking on special characteristics.

The Treatment of Epilepsy by the Use of vesicants along the seat of aura is summed up as follows by Dr. P. Dignat in *Bulletin General de Therapeutique:*

1. The circular vesicants applied along the course of the aura, either at the point of departure, or immediately centrad of it constitutes one of the most efficacious forms of treatment for certain forms of partial epilepsy, with motor or sensory auræ.

2. The treatment is applicable to partial epilepsy *not* due to cranial injury, cerebral syphilis, or any organic cerebral lesion.

3. Observation has shown that this procedure succeeds in cases where other modes of treatment have failed.

4. Finally, this method is absolutely inoffensive and devoid of secondary symptoms such as arise, for instance, after long administration of the bromides.

Tonsillitis is Considered as a Factor in rheumatic fever by Sir. W. Wade in the *British Medical Journal.* The poison of rheumatism is believed by some to be fabricated in the mouth and throat, gaining entrance to the system through the tonsils, producing first a tonsillitis, then rheumatism. Wade sustains the theory that tonsillitis is a primary infective disease of the lacunæ; rheumatic fever a secondary disease, arising from the absorption of microbes or their products into the system. The microbic theory of rheumatism is claimed to be gaining ground, hence the above theory. The basis of this theory is: 1. That the clinical phenomena of this disease corresponds in every particular to an infective disease. 2. Cases have been noted where rheumatism was undoubtedly transmitted from one person to another. 3. Various species of coccus and bacillus are found in the lacunæ during the acute stages. Wade concludes his argument by stating that the facts and considerations occurring in his experience have convinced him there is a very high degree of probability that rheumatic fever is directly due to microbic poison. But to confirm this further, clinical evidence is wanted of the association of the disease with slight throat disorders.

The use of iodine is recommended for trachoma by E. A. Nesnamow in the *American Journal of Ophthalmology.* He uses a one per cent. solution of iodine in liquid vaseline in cicatrical trachoma with infiltrations of the cornea, pannus, ulcers, and superficial opacities. In other forms of trachoma he applies a three to five per cent. solution of iodine in vaseline mixed with a small quantity of sulphuric acid.

A new and successful treatment for hay fever is given in the *Annals of Ophthalmology and Otology* by Dr. W. F. Strangways. After claiming that the theory of direct irritation by pollen on sensitive areas is untenable, he proceeds to explain his views, which briefly are that the cause is found in toxin generated from the pollen by a fermentative process in an alkaline solution. This toxin produces vaso-motor paresis with disordered secretions, which by irritation cause paroxysms of sneezing. Neutral and alkaline solutions but little affected the pollen, whilst very dilute acid solutions caused a rapid formation of a greyish exudation, hence he claims that alkaline solutions assisted to form this toxin, and the acid prevented it by causing other changes. His treatment consists in the use of a douche, using a solution containing acetic acid 2 min., salt 4 grs., resorcin 2½ grs., water 1 oz. The resorcin is not always needed. Internally he administered hydro-chloric acid, one to two drachms daily. In many instances the douche is sufficient alone.

A strange freak of Nature is reported by Mayd at the University of Prague. He recently opened the abdominal cavity of a young man, aged nineteen, who had suffered from infancy with a growth in the posterior portion of the abdominal area. There was found between the spine and the intestines the undeveloped form of a female child minus a head, but with discernible extremities, covered with fat and grown over with hair. The fetus was in a sitting position and connected with the circulatory system of the host in such a way that it participated in the nourishment received by the latter. The trunk was fifteen centimeters long, and hair forty centimeters long was growing from the part where the head should have been. Mayd supposed the growth to have been a twin child which for some reason or other grew into the lower part of the body of its fellow that was actually born. The young man did not survive the operation, and it is expected a post-mortem will more fully clear up this strange freak of nature.

Sulphur is highly praised as a specific in diphtheria by Dr. Fugate in the *Medical Summary*. He says that in 1854, after all means for the relief of a child moribund with the disease had been tried, he placed about a teaspoonful of pulverized sulphur in a small plate, and water in another, then, with a small swab, swabbed the fauces until a large portion of the sulphur had been taken up. The child, after several efforts, swallowed and continued to do so for about ten minutes. He then gave about three grains of sulphur and a spoonful of strong toddy; the child screamed; it was placed to its mother's breast and immediately commenced nursing, and in ten minutes more was asleep, breathing easily and naturally. Ten cases more were treated the same way and in the same manner, only that the toddy was omitted, except in bad cases Since then he has used it in over six hundred cases and never lost a patient. He has used it in nearly all head, throat and lung troubles; in diarrhea, dysentery, cholera infantum; in diseases of the urinary organ, with great benefit; in scalds, burns, cuts and wounds of all kinds, and it has never failed to give satisfaction.

The qualifications for the practice of medicine and surgery in Turkey are related by Dr. Carl C. Hansen, in a letter to the *Pacific Medical Journal*. He says the only medical school in Turkey is located at Constantinople, and is called the Imperial School of Medicine for the Ottoman Empire. Those who wish to practice medicine in Turkey must pass an examination in the chief branches of medicine and surgery at this school. Before being admitted to the examination the candidate must present a diploma from a recognized medical school; that is, one that is recognized by the respective government of the country in which the school is located. That the diploma is issued by such a school must be certified to by the Consul-General at Constantinople. A certificate of practice, together with a petition asking to be admitted to an examination, must also be presented to the director of the school and a fee of seven Turkish liras. If the credentials presented have been satisfactory the candidate is admitted to an oral examination in anatomy, physiology, chemistry, therapeutics, practice of medicine and surgery. If this examination is passed satisfactorily, a permit to practice is granted. Failing to pass this time, a more extended examination must be submitted to.

Having passed the examination successfully, the following oath is taken before the director of the school in the presence of witnesses. "Under auspices of His Imperial Majesty, the Sultan, you have studied medicine in the Imperial School of Medicine, and you have been honored with a diploma. Do you now solemnly and truly swear that you, when invited, will treat all, be they poor or rich, and of whatever nationality, with equal care and attention; that you will never give any medicine which will cause abortion; that you will have a consultation with other doctors when the case requires it; that you will be careful in administering medicines which are of a dangerous nature, and that you will always take great care of the property of the State; that you will be obedient to the laws of the country and to His Imperial Majesty, the Sultan, and comply with all regulations ruling the practice of medicine in the Ottoman Empire.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2058. SATURDAY, AUGUST 15, 1896. VOL. LXXV—No. 7

ORIGINAL ARTICLES.

DIABETES.

A. L. BENEDICT, A.,M., M.D.,* BUFFALO, N. Y.

In an article already published, in the MEDICAL AND SURGICAL REPORTER for March 7, 1896, I have indulged in some theorizing regarding the nature of diabetes and have expressed the conviction —not an original one—that, whatever the ultimate cause of the disease, or the lesions by which it is brought about, diabetes is essentially a disease of nitrogenous waste. It is evident that this view is in marked contrast with the conception that diabetes is simply an aggravated form of glycosuria.

Sugar in the urine means sugar in the blood. The latter indicates neither faulty indigestion nor absorption, nor, necessarily, a failure of the glycogenic function of the liver and muscle-cells. The real chemical failure is of the unorganized ferment which normally assists in the oxidation of sugar into carbon dioxid and water. The existence of this ferment has been experimentally proved and its source has been traced to the pancreas which acts, in this particular, as a ductless gland. The absence of the ferment, therefore, depends on a suspension of part of the pancreatic function. This disturbance may depend upon organic lesion, when there is apt to be a disturbance of the ordinary glandular secretion or it may result from deficient sympathetic innervation. This, in turn, may be either functional or due to disease of the abdominal sympathetic ganglia or the center in the medulla so long known as the diabetic center. *A priori*, we must consider the prognosis grave in all cases of organic source, including those in which the pancreas is histologically normal but in which its function is permanently crippled by failure of innervation. If, however, the disease is functional, both as regards the gland and the nervous system, the prognosis ought to be favorable, though the disease is still a serious one and not likely to recover without the most careful treatment.

It is natural to assume that the destruction of nitrogenous compounds in diabetes is a compensatory effort on the part of the liver and associated organs, for, if sugar cannot be oxidized in the body, some other fuel must be added and the relative indigestibility of fats

*Lecturer on Digestive Diseases, Dental Department, University of Buffalo.

precludes their exclusive use. We must acknowledge, however, that this theory is not wholly satisfactory, in that it does not explain the undoubted action of small quantities of carbohydrates in stimulating an excessive formation of sugar from the tissues of the body. If sugar simply failed to oxidize in the blood,and a sacrifice of albuminous compounds were necessary only to make good the deficit of fuel, we should not expect that the ingestion of carbohydrates would have a positively harmful effect.

The following case illustrates, I believe, the cure of a case of diabetes, falling under the most favorable category, functional nervous failure in a normal pancreas. Mrs. M., Italian housewife, aged forty-seven, consulted, me on January 25, 1896, on account of a progressive failure of strength and relative emaciation, though she was still a fleshy woman. Two years ago, she was very much excited by family troubles, involving a particularly bitter altercation about some property. Some forty days after this excitement, she began to notice increased thirst, distention of the abdomen, lassitude and pain in the stomach. It is altogether likely that the urine was increased,but she has no positive recollection about this point till some time later. For nearly two years, she has noticed an enormous increase in the urine, so that she has had to empty the bladder every half-hour or so during the day and she has actually measured two gallons passed in twenty-four hours, without attempting to save the whole quantity. Of water she drinks two or three gallons daily. She has had, and still presents, numerous small boils and sores on the arms, legs, chest and abdomen. No local irritation has been caused by the urine. The tongue is dry and covered with white fur. The patient weighs between seventy and eighty kilograms; she has lost considerably but does not know the exact amount.

On the following day, the analyses of the urine and physical examination were made. Urine for twenty-four hours, between 6,000 and 7,000 c.c., light yellow, acid, no albumin nor peptone, trace of indican, no acetone, and, at most, a trace of diacetic acid. Specific gravity, 1,040, corresponding to about 500 grams of total solids. This rule of approximation does not, however, apply to cases of diabetes. With hydrochloric acid there was some precipitate of uric acid, but not enough to weigh. Urea, 144 grams (normal for a woman of her size and comparatively inactive life, about 25 grams); sugar, 300 grams (fermentation method of Einhorn).

The heart was normal, the lungs showed no physical signs, but there was a slight cough and expectoration from catarrh of the trachea and, perhaps, of the larger bronchial tubes. The stomach was normal by auscultatory percussion, but showed the transverse axis common in fleshy and flabby women. There was no complaint to justify a chemical examination of the stomach contents. The liver reached from the upper border of the fifth rib to one centimeter above the costal arch, in the nipple line. (Normal extent by auscultatory percussion, from fourth rib to costal margin). Patellar reflexes absent, but other signs of tabes were absent. I would like to observe in passing that the frequency of the association of diabetes and tabes has been much exaggerated.

The treatment ordered included hydrochloric acid, as an aid to albuminoid digestion and a spur to the liver; strontium lactate, from mere empiricism; and a diet of eggs and butter for a few days.

On February 3d the patient reported that she was drinking only four glassfuls of water (about 2,000 c.c.) daily and passing correspondingly less urine. On account of an exacerbation of the cough, ammonium chlorid was given. Meat was allowed in order to vary the diet, but, aside from the slight amount in meat, no carbohydrates were admitted. On the next day the urine was again examined, with the following encouraging result: Quantity for twenty-four hours, 3,000 c.c.; specific gravity, 1,034, corresponding to about 200 grams of solids. Urea, 81 grams; sugar, 75 grams.

On February 20th the patient reported subjective improvement, and stated that she had passed only about a quart of urine in the last twenty-four hours. Two days later the urine amounted to 1,500 c.c. of a specific gravity of 1,021, corresponding to sixty grams of solids.

The alkaline solution of cupric sulphate in potassium hydrate indicated a mere trace of sugar. Picro-nitric acid and potassium hydrate gave a dark claret color, whereas even a minute quantity of sugar produces almost a blackness of the solution. Indican was present, but not to excess, in spite of the relative concentration of the urine. Sugar by the fermentation test amounted to not quite one-half per cent., or about seven grams. (There must have been some sugar in the yeast, or other source of gas.) The urea was forty-five grams.

On March 12th the patient became alarmed at a precipitate of urates, and brought a single sample of urine to the office. The urine was normal, except for the urates, there being no sugar by either the copper or picro-nitric acid test. Here, according to the saccharine view of diabetes, one might have been tempted to register a cure, especially as inquiry elicited the fact that the patient had taken milk, a little bread, and some vegetables, all of which had been prohibited. But, as already stated, my conception of diabetes is that the mental and physical depression, the tendency to nervous degeneration, to tuberculosis and furunculosis, are due to an inordinate waste of proteid matter, either of food or of tissue, or of both, and not primarily to the increase of sugar in the general circulation. On the next day, therefore, a twenty-four hour sample of urine was examined, with the following result: Total quantity, 1,000 c.c., free from sugar and containing only a trace of indican, explained by gastro-intestinal fermentation. There were thirty-two grams of urea, a perfectly normal quantity.

The question now presented itself, Was the diabetes merely held in check by the restriction of diet—which had not been rigidly obeyed—and the continued sedative or alterative action of the strontium lactate, or had a cure really been accomplished? In order to determine this point, the medicine was discontinued, the patient was allowed any food she chose, and she was directed to return at the end of a week, with a twenty-four hour sample of urine.

It should be stated that no effort had been made at feeding with butter, cream, etc., as the patient had a thick padding of subcutaneous fat, although muscular atrophy had taken place. With an abundance of inutilized fat already at hand, it seemed unwise to run the risk of destroying the appetite and digestive powers by urging the patient to eat more fat than she naturally craved.

Meantime, the patient was gaining in weight and strength, and she felt so much improved that she declared herself practically well and postponed further examination from time to time. Finally, on May 2d, seven weeks instead of seven days after the last consultation, she saved the urine for twenty-four hours and submitted it for examination, as a favor to the writer, while disclaiming any further need for treatment. The result was all that could have been desired. Total quantity, 900 c.c., yellowish, beginning to decompose; specific gravity, 1016, corresponding to twenty-nine grams of solids. No sugar by the picro-nitric acid test, no indican nor albumin. Urea, 24.3 grams. As already mentioned, the specific gravity test for total solids is, at best, an approximation, and it fails utterly if decomposition has begun or if a large amount of sugar or of any other single ingredient is present. Probably in this instance the renal elimination of solids, aside from urea, was very low, as the day was warm and the patient had perspired freely. In such instances the nitrogenous waste still takes place through the kidneys, while salines are eliminated through the skin. The patient having been for two months on unrestricted diet, without any symptoms of diabetes and the urine being free from sugar and indicating no excess of nitrogenous waste, she was now discharged cured.

A Halcyon Time for Doctors.

Physician of the New School (after turning X rays on the patient)—Your case is a somewhat complicated one. There is a slight trouble with your left lung, and I observe enlargement of the liver and fatty degeneration of the heart. Kindly hand me that $2.54 in your right-hand trousers pocket and I will prescribe for you.—*Puck.*

ERYTHEMA NODOSUM TRACHEALIS.*

GEORGE F. COTT, M.D.,† BUFFALO, N. Y.

It may seem peculiar that another name should be added to the already overcrowded nomenclature of disease, a fact which I readily admit, but erythema nodosum trachealis is not a disease *per se*, being only a symptom of considerable importance when it accompanies that particular lesion of the skin. The name was chosen to designate a condition which is extremely dangerous to life, if it be allowed to go unrecognized, because the symptoms might be treated lightly, as there may be but slight evidence in the mouth, throat and pharynx, and none at all in the trachea.

A number of diseases of the skin affect the mucous membranes also, but they are so common that they are not easily overlooked. These throat symptoms are usually considered as secondary only, the lesion seldom being severe enough to cause suffocation. When the trachea becomes affected with erythema nodosum, however, it is well to be on guard, since dangerous symptoms may arise without much warning, as the following case will show:—

Early Monday morning, April 20, 1896, I was hastily summoned to see Mr. G., who was suffocating. On my arrival he was found sitting in a chair breathing with difficulty, indicating some obstruction in the larynx. I was informed by Dr. Gibson that the larynx was clear and that the lesion must be in the trachea. As the patient was in pretty good condition, I examined the mouth, pharynx and larynx. The tongue was coated and showed two or three erosions underneath, otherwise it was normal. The pharynx was congested; there was mild laryngitis, with slight edema of the false cords, but not sufficient to hide the true cords entirely, which were red and somewhat thickened; the voice was quite clear. The left arytenoid was immobile and somewhat thickened; the right crossed over beyond the median line during phonation; the subglottic tissue was plainly visible, but leaving sufficient room for breathing purposes.

Dr. Wyckoff, the family physician, and Dr. Gibson had labored with the patient for several hours, applying cocaine and giving steam inhalations, but affording slight relief. Intubation was proposed, to which the patient readily consented. A twelve-year tube was introduced, but met with obstruction deep down in the trachea; a second trial gave the same result. Then a small adult tube was tried and failed; a large adult tube met a similar result. The tube could be held down, but projected above the epiglottis, affording no perceptible relief. The patient was rapidly growing worse, and the family being very anxious to have something done, I proposed tracheotomy, to which consent was given. While attempting to lead the patient into another room, where a table was prepared, he suddenly collapsed and became unconscious. He was hurriedly carried into the room, but ceased to breathe almost as soon as we reached the table, and the pulse became weak. As no time was to be lost, an incision was made down to the trachea regardless of vessels; a large amount of dark blood escaped, obstructing the field of operation, four or five hemostatics were applied and the finger forced down to the trachea, which was opened large enough to admit the finger and tube. The patient was lifted up by the feet to allow the blood to escape from the trachea, and after half a minute a feeble inspiratory effort was heard, followed shortly by another, and in a few minutes breathing was carried on regularly. The severed veins were then tied and the wound dressed. In half an hour the patient got up and walked to his bed in the next room. He made an uninterrupted recovery. The fourth day the tube was removed and the wound allowed to granulate.

* Read before the Section of the Medical Association of the State of New York, May 12, 1896.

† Instructor in Laryngology, University Dispensary, Buffalo.

As there was no apparent reason for the obstruction, and nothing could be seen immediately beyond the subglottic tissue, the case became of more than ordinary interest. Dr. Wyckoff noticed a peculiar eruption over both tibiæ and upon the forearms, which aroused suspicion. The following day the eruption was changed. That day Dr. Grover Wende, the dermatologist, was invited in consultation with Dr. Gibson, the neurologist, Dr. Wyckoff and the writer. Dr. Wende diagnosed the case as erythema nodosum, which is known to affect the mucous membrane of the mouth and pharynx, but has never been mentioned in any text-book or journal as invading the trachea.

The preliminary history of this case might be of some interest. Mr. G., a bookkeeper, aged thirty-five, well built, weight 165 pounds, previous health good, family history good, about April 10th noticed an eruption on his legs, but paid very little attention to it. April 14th he felt some soreness in his throat, and that night had an attack of difficult breathing, which, however, passed off again. Two days later he had a second attack which lasted four hours, or until tracheotomy was performed.

This eruption went through a typical course, producing successive crops, which no doubt was the case in the trachea also, the first obstruction disappearing and a second forming and nearly causing death. Several days before I saw the patient, Dr. Wyckoff noticed the characteristic elevation in the throat.

The disease is supposed to accompany rheumatism and other constitutional affections. This patient had an attack of rheumatism some five years ago. The anchylosis of the left arytenoid was explained by an injury received some fifteen years ago, and which has given him more or less pain ever since.

As the disease, when affecting the trachea, presents such a formidable condition, I thought it might best attract attention if given a proper name of tracheal erythema nodosum.

LAVAGE AS A THERAPEUTIC MEASURE IN DISEASES OF THE STOMACH.*

M. W. KNIGHT, M.D., Milford, Mass.

In calling attention to lavage as a method of treating certain stomach diseases, I am by no means introducing a new therapeutic measure, but wish to emphasize the importance of a mode of treatment with which all should be familiar. For some years text-books have recommended lavage for certain stomach diseases, particularly dilatation of the stomach, vomiting of cancer and chronic gastritis. None of them that I have read, however, give to this method of treatment that importance and emphasis which the measure in my opinion merits. All of us are aware that a considerable percentage of the cases which come to us for relief are functional and organic diseases of the stomach and intestinal tract. Treatment of these maladies is often discouraging to physician and patient alike, and while in many cases much may be done by judicious medication, proper regulation of diet and thorough mastication of food, the fact remains that medicines in these cases in my own experience have had their limitations. Over two years ago I commenced the use of lavage and have continued to do so since in cases of dyspepsia, chronic gastritis, ulcer of the stomach, vomiting of cancer, and chronic diarrhea.

I regret that I have never preserved notes in regard to my cases, but never expecting to write upon the subject I have not, and can only report in a general way upon the results. In some cases that I wished to treat in this way the patient objected and I was obliged to use more agreeable remedies, but

*Read before the Thurber Medical Association, of Milford, Mass., July 23, 1896.

usually my patients have submitted pleasantly and sensibly. I use a medium-sized red rubber tube with funnel at one end and of late have purchased them from Otis Clapp, of Providence, at an expense of $1.25 each. The end of the tube is wet with a little warm water carried carefully over the tongue, being careful not to touch its posterior surface, and passed usually at first, with some gagging into the stomach. If the patient is specially sensitive the fauces is sprayed with a two-per-cent. solution of cocaine before introducing the tube; but I have been surprised in several instances, how readily even fastidious women swallowed the tube. After its introduction there is poured through the funnel extremity a pint of warm water containing sometimes a teaspoonful of bicarbonate of soda, sometimes an ounce of listerine, sometimes a teaspoonful of common salt. The tube is now lowered and the contents of the stomach removed by syphonage. This is repeated until the water introduced returns perfectly clear. After assisting the patient a few times in this he readily attends to the matter himself once or twice daily as I direct, usually to commence with before breakfast and before supper.

The *modus operandi* of this treatment of course is largely mechanical. In many functional stomach diseases the food, instead of perfectly digesting, ferments, and irritating gases as well as butyric, lactic and acetic acids are generated. These as well as remnants of imperfectly digested food are removed and the stomach cannot fail to be benefited by the removal of this irritation. In chronic gastritis a great deal of tenacious mucus often envelops the solid food ingested, thus serving the double purpose of impeding the proper peristaltic action of the stomach, and preventing, largely, the action of the gastric juice upon the stomach contents. Lavage by removing this mucus must be a rational and effective measure. As the gastric juice is deficient in these cases, I believe it is an advantage to use instead of the soda bicarbonate a teaspoonful of common salt to the pint of water thus supplying a material out of which gastric juice can be generated.

To my mind lavage is the only sensible and practical method of treating ulcer of the stomach, conjoined, of course, with strict diet and as much rest as can be given that organ. I do not believe, in this disease, that medicines ever have or ever will amount to anything, except as they may be given symptomatically for the relief of pain or nausea.

Many text-books recommend, in this disease, nitrate of silver, bismuth and other remedies, and perhaps if we were able to apply them to the ulcerated surface alone something might be accomplished; but when administered it is exceedingly improbable that they ever reach the diseased surface in sufficient amount to accomplish anything whatever. In this disease more than any other, I believe lavage by removing irritating matter will keep the ulcerated surface in the best possible condition for granulation and cicatrization. I have treated several cases by this method and in each improvement has commenced and continued from the first time I used the treatment. My last case, Mrs. C., was taken in October last with severe pain and tenderness in region of the stomach, with later vomiting and hematemesis. This patient was very fastidious, and for three months I dieted her and treated with medicines, with absolutely no benefit whatever; at the end of this time I had consultation, which confirmed diagnosis and made certain suggestions concerning treatment. Two weeks later, as my patient did not improve, she was induced to use lavage. The tube was very readily introduced, the stomach very thoroughly washed out twice daily, and improvement commenced within forty-eight hours, and has been steady since, although I think this the worst case of the disease I have ever had, and the progress has been interfered with by occasional attacks of gall-stone colic. The patient during a greater part of her illness was absolutely devoid of appetite, declared she could not take either solid or liquid food, and for two months I had her at eight, twelve, four, and eight o'clock daily introduce the tube and an attendant administer through it twelve ounces of lukewarm milk. This was her diet largely, though for several weeks of the time, when the stomach was in the worst condition, the

milk was peptonized. I wish to say here that, in my opinion, the treatment of ulcer of the stomach can be concisely summed up in this—lavage and peptonized milk. When the stomach is exceedingly irritable the rectum can be used for a few days to relieve the stomach and give that organ absolute rest, but I do not believe it is either necessary or desirable to resort to this measure for any considerable length of time.

The obstinate vomiting of cancer has been considerably relieved by me after trying other remedies, in a single case. I have had but this one opportunity to use the tube in this disease.

My experience in treating chronic diarrhea with lavage has been limited to two or three cases. In these the results were encouraging. Comparatively little medicine was given, the patient carefully dieted, taking for the most part those foods which are digested in the stomach, and lavage used to remove any irritating remnant of food which, by its passage over sensitive and diseased mucous membrane, might produce chemical or mechanical irritation.

With this method of treatment in dilatation of the stomach I have had no experience, but I believe it to be the only rational treatment of this condition of a therapeutic nature.

Before closing I wish to say a word in regard to the very great importance of paying special attention to dietetics and the slow and thorough mastication of food in nearly all diseases of the stomach and intestinal tract. One of the best results I ever had in a case of chronic indigestion was secured without medicine by sending the patient to the dentist for a set of artificial teeth. Without attention to these matters any treatment must necessarily be disappointing.

In conclusion I want to say that I do not wish to be understood as advocating lavage for every morbid condition of the gastro-intestinal tract. I do not flaunt in the face of every patient who comes to my office the stomach tube, nor do I believe it a cure-all for these diseases. Properly and judiciously used in the diseases above referred to, I am convinced it is a practical and sensible measure and will not fail in the majority of cases to give gratifying results.

COMMUNICATIONS.

AUTO-INTOXICATION PRODUCING EPILEPTIFORM CONVULSIONS; HYSTERICAL SPASM IN THE MALE; INTESTINAL OBSTRUCTION; APPENDICITIS; PERITONITIS; OPERATION; RECOVERY; RELAPSE IN TYPHOID.*

H. A. HARE, M.D.,† PHILADELPHIA.

I desire to report these cases because of their peculiar interest both from an etiologic and therapeutic standpoint. The first is that of a clergyman, aged fifty, for many years a resident of Texas, in which portion of the country he suffered from a severe attack of yellow fever some years ago, and since which he has never been "the same man," although he has worked as hard and been as active as before. He is well-nourished and apparently in good physical condition, and has been in the habit for a number of years of taking a large amount of daily exercise, often walking from seven to ten miles every day for weeks at a time, with the hope that he might be able to overcome the condition about to be described. Having a ten-

*Read before the Philadelphia County Medical Society, April 22, 1896.

†Professor of Therapeutics in Jefferson Medical College of Philadelphia.

dency to chronic constipation, which usually requires a careful laxative diet and active laxative medicines to overcome it, the man has hoped that exercise would give him a certain amount of relief. As often as once a week, or even oftener, he suffers from fulness in the head and some dizziness, with a feeling of general malaise and wretchedness, and during this time it requires the greatest force of his will to make any effort, mental or physical. At less frequent intervals, varying from a month to six months or more, he has been seized with much more violent attacks, in which for several days the symptoms such as have just been described persist; while he wakes early in the morning, rises from his bed in a semi-delirious condition, and, if interfered with, is likely to become somewhat violent. In a short time the man passes into a typical epileptiform convulsion, followed by deep sleep and a restoration of consciousness entirely similar to that seen in a person emerging from a true epileptic paroxysm. There is no history of any specific trouble, of any injury, of sunstroke or hereditary tendency, although there is a history of marked nervous debility due to overwork at various times during the past twenty years.

Carefully directed treatment for the purpose of overcoming the nervous exhaustion and of improving the digestion effected little if any result, and the fact that large doses of calomel had on a few occasions seemed to produce temporary improvement, suggested to my mind the possibility that the case might be one of auto-intoxication, somewhat similar to those described by Brieger and some French investigators. Acting on this principle the patient was directed to take a diet as free from fats as possible, and to produce every day by means of a copious draft of Hunyadi water, taken before breakfast, a semi-formed stool. He was also given at the same time a pill composed of extract of chiretta two grains; leptandrin, half a grain; podophyllin, one-fifth grain, euonymin, half a grain; beechwood creasote, half a grain; taken three times a day after meals. During a period of three months he has not only had no return of his epileptiform manifestations, but he has been entirely free from the symptoms of mental and bodily torpor already mentioned; and it would seem evident that by the regulation of the diet the stimulation of the gastro-duodenal glands and the glands opening into the duodenum, as well as by the use of the purgative, certain processes that resulted in the development of animal alkaloids in the intestines were set aside.

The second case was that of a man, aged nineteen, of Irish birth, who was confined to bed because of violent pain in the epigastrium radiating toward the right kidney. He was generally free from the pain during the day until late in the afternoon or in the evening, when it would come on with what he described as frightful intensity, so as to be absolutely unbearable. His tongue was heavily furred and his digestion evidently markedly impaired. He did not, however, possess the appearance of a person who suffered severe pain, nor was there any evidences of impaired nutrition or grave disease. On attempting to examine the abdomen, it was found that both rectus muscles were in a condition of rigid spasm, and when they were touched they developed, particularly the one on the left side, rhythmic contraction which conveyed to the hand an impulse very similar to that produced on deep palpation of the aorta in a person with a thin abdominal wall. The greater the pressure the greater was the response to the spasm. The time of the spasmodic contractions was about sixty per minute. On anesthetizing the patient the spasms ceased entirely, long before ordinary muscular relaxation was produced, and deep abdominal palpation failed to reveal anything abnormal in the belly. Largely for the purpose of producing a mental effect and also with the hope of making an impression upon the condition of the stomach, lavage was instituted. Preliminary examination of the gastric contents revealed a condition of chronic gastric catarrh, with advanced fermentation of the stomach contents and excessive mucus. Persistence in the use of lavage and antiseptic solutions and the regulation of the diet caused entire removal of all the symptoms.

The third case was that of a boy, aged nineteen, who was taken ill on a

Monday night with violent pain in the belly which lasted continuously until I saw him on Tuesday evening at nine o'clock. On examining the belly all the physical signs of a general peritonitis were present. The abdominal wall was hard and knotted, but scaphoid and tender on pressure. The pulse was 154, the respirations fifty-six. The pain was localized in the neighborhood of the diaphragm; there was no increase in tenderness in the right iliac fossa, nor, indeed, could any excessively tender spot be found anywhere in the belly. The bowels were obstinately confined; the urine was secreted in fair quantity, but there was difficulty in passing it, owing to the pain that was produced. Careful rectal examination showed possible tenderness in the right iliac fossa, but this symptom was not sufficiently marked to make a diagnosis of appendicitis justifiable. There was no history of a previous attack of appendicitis, but the patient stated that six months before he had suffered with violent pain in his side, which his physician had called "rheumatism."

As it was evident from the boy's condition that under medicinal treatment death must shortly result and that quickly, a surgical operation was strongly advised after consultation with Dr. W. W. Keen. The patient was at once removed to Jefferson Medical College Hospital and at midnight was operated upon by Dr. J. Chalmers Da Costa. Examination of his heart prior to the operation revealed an exceptionally loud aortic obstructive murmur. As there were no symptoms indicating localized trouble in any portion of the peritoneum, a median incision was made, and almost immediately it was found that the ileum was obstructed in consequence of the intestine having fallen over an old band formed by some previous inflammatory process, and it was supposed that this obstruction was the cause of the apparently universal peritonitis. For the sake of leaving no stone unturned, in view of the obscure character of the case, the appendix was drawn into the opening in the abdomen and was found to be intensely inflamed and bent in coils which were bound together by old and new lymph. The canal in the appendix was also practically obliterated near its junction with the colon. This portion of the bowel contained no foreign body or fecal matter, but it contained some mucus and the mucous membrane was so thickened and hardened as to be almost cartilaginous. The appendix was removed. The operation occupied an hour and a quarter. The patient was put to bed in fully as good a condition as before the operation, the abdominal cavity having been in the meantime thoroughly washed out with hot saline solution. The case progressed favorably until the end of thirty-six hours, when it was thought wise to remove the drainage-tube. Almost immediately after its removal the patient expressed himself as feeling much worse, and began vomiting the peculiar greenish matter characteristic of some cases of peritonitis. The ejecta speedily became stercoraceous in character and in odor, and it was believed that a fatal result impended. The wound was opened and deeply packed with gauze in order to re-establish drainage, and immediately upon this being done the patient markedly improved. He was given by the mouth small quantities of cracked ice over which had been poured white of egg and some brandy for the purpose of relieving the pain and tympanites, and to quiet the nervous restlessness and stimulate the vaso-motor system; he was given a rectal injection of starch-water containing fluid extract of hyoscyamus, five drops twice a day. Following this he passed through a long period of convalescence lasting weeks, and during which there were frequent attacks of violent pain in the belly, with vomiting. At one time the vomiting occurred daily, but ceased when the morphin was withdrawn and the bromids and chloral substituted therefor as hypnotics. At the time of the attacks of pain and vomiting, which occurred after the morphin had been stopped, the surface of the body would become icy cold and covered with sweat, the temperature subnormal, and active treatment was required to prevent fatal collapse, such as the application of heat and the rectal injection of strong, black coffee.

The surgical complication of the case consisted in a gaping of the wound in consequence of the removal of the

stitches and the constant packing with gauze. On one occasion active hemorrhage took place from the denuded surface of a knuckle of intestine which was constantly exposed in the wound. By means of adhesive strips and an abdominal binder and rigid antisepsis the edges of the wound were approximated, became healed, and with the aid of an abdominal belt the patient left the hospital weeks after admission, having gained considerably in weight during the last few weeks of his sojourn.

The entire course of this case is exceedingly interesting, but the points of peculiar interest are the development of general peritonitis from intestinal obstruction; the association therewith of acute appendicitis; the fact that had medicinal measures been relied upon in the absence of distinct indications for an operation, death would certainly have occurred; and, finally, that recovery should have taken place after the characteristic vomiting had been present in a person who already had to contend with marked aortic obstruction. The maintainance of absolute asepsis, so that the edges of the wound at no time became infected, notwithstanding that it had to be dressed daily week after week, speaks well for the care of the attendants and had much to do with the ultimate recovery of the patient.

A man, aged twenty-three, was taken ill with typhoid fever on February 1, 1895. He passed through the characteristic period of four weeks without any symptoms of particular interest, save that he had repeated hemorrhages from the bowel, varying in quantity from a few drams to five ounces. His temperature having been normal for three days, much against my better judgment and because of his constant pleading, I added to his milk-diet a small quantity of broth containing rice in considerable amount. Three hours after taking this meal the temperature rapidly mounted from normal to 104°, and a typical relapse, not a recrudescence, occurred. The tongue again became dry and characteristically coated, the typical typhoid eruption appeared on the abdomen and chest, the diarrhea returned, and the characteristic morning fall and evening rise of temperature, with gradual progression during three weeks back to the normal, followed.

This case is of interest as indicating that a true relapse may follow the ingestion of food, although as a rule when food is given too early, a temporary return of the fever, which is of an irritative type, while it may alarm the physician, does not indicate a true second attack of the disease.

SOME THERAPEUTIC USES OF GUAIACOL.*

HORACE G. McCORMICK, M.D.,† WILLIAMSPORT, PA.

I desire to give my experience, gleaned from bedside observation, of that little-written-about drug, guaiacol.

Its use as a local application for the reduction of temperature was first suggested to me by Dr. J. Solis-Cohen, some two years ago, in a case of tuberculosis which he saw in consultation with me. Its action in this case was so prompt and effective that I pushed the investigation in other diseases, with results herewith summarized.

In September, 1894, when I entered upon my term of service in the Williamsport Hospital, I commenced the use of guaiacol as a local application for the reduction of temperature. In typhoid fever, since then, I have had it applied 864 times—778 times in the hospital, and 86 times in private practice. These applications were made to forty-three different persons, about equally divided between males and females, with wide variation of ages. The greatest number of times it was applied to any single person was 78, and the least number of

*Read before the Philadelphia County Medical Society, April 22, 1896.

†Physician to the Williamsport Hospital, Pennsylvania.

times once. The largest dose was twenty-five drops and the smallest two drops. The greatest reduction of temperature was from 106.8° to 101°, in two hours, by the application of five drops, with a corresponding reduction of the pulse-rate from 136 to 110 per minute, the respirations falling from 36 per minute, to 28. This patient, however, showed very great susceptibility to the drug, as the application of two drops reduced the temperature from 103° to 100.4° in one and one half-hours. A number of special reports were prepared for me by the nurses, of some of the cases in which guaiacol was applied, which may be useful in showing its effect not only upon the temperature but also upon the pulse:

Carrie Horton:

Five drops of guaiacol applied.	Pulse.	Temp.
9.45 P.M.	144	107°
10.20 P.M.	132	104.2°
10.50 P.M.	132	102.2°
Five drops applied.	**Pulse.**	**Temp.**
12.45 P.M.	130	104°
1.30 P.M.	120	100.6°
Five drops applied.	**Pulse.**	**Temp.**
5 A.M.	118	104°
5.30 A.M.	108	102.4°
Five drops applied.	**Pulse.**	**Temp.**
1.25 P.M.	135	104°
2.20 P.M.	130	101.8°

Ada Saxton:

Twenty drops applied.	Pulse.	Temp.
11 A.M.	126	104°
12.30 P.M.	112	101°
3 P.M.	110	100°
4 P.M.	122	99°

Annie Witzman:

Ten drops applied.	Pulse.	Temp.
10 P.M.	130	104.4°
11 P.M.	108	100.6°
12 midnight	105	98.2°
12.30 A.M., slight chill.		
Fifteen drops applied.	**Pulse.**	**Temp.**
12 M.	126	105.2°
1 P.M.	120	101.4°
2 P.M.	106	100.8°
Fifteen drops applied.	**Pulse.**	**Temp.**
10.40 P.M.	156	107°
11.15 P.M.	134	104°
12 midnight	116	102.4°
12.45 A.M.	108	99.8°

It will be noticed that within thirty minutes after the application there was a fall in the temperature, and in most cases a corresponding reduction of the number of heart-pulsations per minute. It is generally asserted that guaiacol is a depressant, and, for this reason, a dangerous remedy in diseases in which the circulation is likely to suffer from long-continued fever. This assertion has not been borne out by my experience. On the contrary, I have seen at different times, with a high temperature, a pulse so rapid and weak that it could not be accurately counted, after the application of guaiacol distinctly lessened in frequency and strengthened in force. A weak and rapid pulse is to me no contra-indication for the use of the drug.

In the case of Annie Witzman the reduction of temperature is well illustrated; seventy-eight applications were made. It will be noticed that on November 11th, at 10.40 P.M., the temperature reached 107° and the pulse was 156. Fifteen drops of guaiacol were then applied, and at 12.45 P.M. the temperature was reduced to 99.8° and the pulse was 108. The table does not show this. The ice pack was used in this case, being kept up for twelve consecutive hours; yet I was forced to abandon this and return to the guaiacol in order to reduce the temperature. This case was one of the most persistent cases of high temperature I have ever seen. The patient made a good recovery.

The effect of guaiacol lasts from three to four hours; the more often it is applied, the greater the effect. When I first commenced the use of this drug I found that the sudden reduction of temperature caused chilling in a number of cases, but after I became more accustomed to its use chills rarely occurred. If it can be avoided, the temperature should not be reduced below 100°; and this is a matter which can easily be regulated after the applications have been made a few times, care being taken to commence with a small dose—say from ten to fifteen drops—this gradually being increased if necessary until the temperature is reduced.

It has been suggested that by this rapid reduction of temperature there is great danger of producing congestion of some of the internal organs of the body. I have not seen a single unfavorable symptom (except an occasional chill) following its use. I had one case of pneumonia as a complication, but this

did not develop until six days after the last application of guaiacol, which was in no way responsible for it.

The point selected for the application was the right iliac region. This was thoroughly cleansed with soap and water, and after the part was thoroughly dried (it is important that the surface should be entirely free from moisture, for guaiacol being of an oily nature will not be absorbed if there is the least moisture present) the guaiacol was slowly dropped upon the surface and thoroughly rubbed in with the hand for from ten to fifteen minutes. The part was then covered with oiled silk or waxed paper. The only preparation used was Merck's, and it rarely failed to produce the desired result. Any other point would probably do as well for the application, but I selected this because it was as near the seat of the trouble as I could possibly get, and could be easily reached and covered with the oiled silk, without in any way disturbing the patient. In only three cases was any local irritation produced, and I was forced to move to the left side to make my applications.

There were no unpleasant symptoms accompanying its use, and no complaint was made by any of the patients. The disagreeable odor that has been described by some as being objectionable, was referred to by only one of my patients, and then only on the first application. Sweating is nearly always produced, corresponding somewhat to the greater or less reduction of temperature.

One very important fact was observed in the use of this drug for the reduction of temperature in a case of pyemia. The case was seen in consultation with Dr. Detwiler, and was found with a temperature of 107°. Twenty drops of guaiacol produced no effect. The application was repeated in forty minutes, and yet no effect on the temperature was produced. Fifty minutes later another application (this time forty drops) was made, with the same result as before. The applications were continued until the expiration of three hours, when 100 drops had been applied; yet during this time the temperature had not varied over half a degree from 107°. The pulse, which was weak and rapid when the first application was made, at the end of three hours had lessened in the number of beats per minute and increased in volume. There was no sweating in this case. I have not had an opportunity of trying guaiacol in any other case of pyemia, but from my experience in this one I am led to believe that it has no value.

It may be urged that the fever of typhoid is not the disease, and does not call for treatment. That it is the disease no one will pretend to assert; but that it is an important symptom, and when it rises beyond a certain point calls for something to reduce it, or keep it in abeyance, every physician who has had much to do with this disease can bear testimony.

When the system of baths was first introduced, the only object was the reduction of temperature, but those using them found that their patients did so well under this form of treatment that they took to philosophizing upon the subject, and undertook to prove that the cold bath did something else not exactly admitting of explanation, by modifying the disease, lessening the fever, and making the case a less formidable one. That this effect is produced I am willing to concede, but that the baths do more I believe is open to serious question, and further proof will be required to place it beyond controversy in the profession.

Much has been written by the advocates of the system of the delight and pleasure their patients have experienced in being put in a cold bath. I believe these gentlemen have never tried it upon themselves. I have no reason to believe that the people of Philadelphia or Baltimore are any less susceptible to cold than those in the interior of Pennsylvania. I have used the cold bath many times, and, with the exception of a colored boy whom I treated in this way some time ago, I have not been able to make my patients believe by any argument of mine that it was an enjoyable pastime. I thoroughly believe in it as an effective form of treatment, but it is not pleasant for the patient; it is difficult to carry out in detail; it involves great expense, and, in private practice, is not a practical form of treatment. In spite of the inventon of portable bath-tubs, the method still

lacks that practicability that is demanded by the general practitioner.

Guaiacol when given internally does not markedly reduce the temperature. I have given as high as ten drops in a single dose to a patient without materially affecting the pyrexia, while the same amount thoroughly applied to the skin would reduce the temperature to a marked degree. I have also applied the remedy to those in health in sufficient doses to reduce an abnormal temperature, without any effect upon either the temperature or the pulse.

The natural question to ask would be: If this drug possesses the power as here asserted, what is its method of action? How does it reduce temperature? What is the physiologic action? Now, in order that there may be no controversy, with me at least, upon this subject, I candidly assure you that I do not know. I know the effect, but cannot explain how it is brought about.

While I have a high regard for guaiacol as a local antithermic, none of this respect is lost when I come to use it internally. As an intestinal antiseptic I believe it has no superior. I have used it in fifty-six cases of typhoid fever, with the best results. The best evidence of its virtue in these cases is the fact that tympanites was either entirely abolished or was present in so slight a degree as to be of no consequence. The tongue was moist throughout the disease, and delirium if present was of a very mild form. Of the fifty-six cases thus treated, fifty-five recovered. In the one in which death took place the patient was admitted to the hospital on the fourteenth day of his sickness, and died on the nineteenth— of perforation; an autopsy was made, and it was found that the perforation had taken place about three inches above the ileo-cecal valve. When the abdomen was opened, the unmistakable odor of guaiacol was found to be present. This was to me an important discovery, as by the death of this man was proved —what I had before been led to believe —that guaiacol passes through the alimentary canal unchanged, for the guaiacol which had been given this man was still guaiacol at the ileo-cecal valve, and passage through the colon would not be likely to change it. The smell of guaiacol was noticed in the stools of nearly all of these patients. It has been my practice to give pure guaiacol in emulsion. This is rather a disagreeable dose, and some objected so seriously to its use that I was forced to give it in capsules; when this was not expedient, then I gave guaiacol of carbonate dry upon the tongue in 2½ grain doses. I have never found this to disagree with the stomach, and patients do not offer any objection to taking it.

In summing up this question I feel convinced of the following facts:

That guaiacol when applied locally in typhoid fever, is certain to reduce the temperature.

That, with the care that a physician should always use in the administration of drugs, it is absolutely safe.

That chills will not occur if the temperature is not reduced below 100°.

That no deleterious effects are produced upon any organs of the body by its use.

That it is easy to apply and can be used by any one competent to nurse a typhoid-fever patient.

That there are no depressing effects following the use of the drug, if used intelligently.

That by its continued use the dose can be gradually lessened.

That it is far superior to the cold bath, in that it can be used by one person. No appliances are necessary for its use that are not obtainable in any house. It is much more pleasant to the patient, and carries with it no horror to the family. Argument and persuasion with the family and friends are not made necessary. It is fully as effective as the cold bath. Patients are not subjected to the danger of moving. There is no complication such as hemorrhage, etc., that is a contra-indication to its use.

That when given internally it is one of the best intestinal antiseptics known, if not the best. By its use in typhoid fever the dry tongue and tympanites are abolished, digestion and assimilation rendered more perfect, and the probabilities of hemorrhage reduced to almost *nil.*

She—I fear your love is growing cold.

He—Not a bit. It only seems cold in contrast with the weather.

PAINS IN THE LUMBAR REGION.

SAMUEL WOLFE, A.M., M.D.,* PHILADELPHIA.

Whole volumes, and innumerable shorter articles on the subject of headache, have appeared in medical literature, while backache has received but little systematic attention. The symptomatic importance of the one is probably quite equal to the other. There would seem to be some advantage in looking at either, generically. While the danger of confounding a symptom with a disease, may attach to this form of study, it is again the most certain way of clearly separating the two.

Taking all the pains that may occur in the lumbar region, we may relate a certain proportion immediately to the parts diseased. Diseases of the lumbar cord, and of its coverings; of the nerve roots, and of the spinal and sacral bones and the joints, ligaments, muscles and tendons connected with them, all have this symptom, locally expressed, more or less in common. Direct painful disturbances of the nerves of these parts also occur.

Another portion belongs to diseases in the neighboring organs of the pelvis, the abdomen, or even of the chest. Here the effects of pressure on the nerve trunks or plexuses, of extension of inflammatory processes, and of vascular disturbances are felt.

A third class of these pains connects itself with general systemic diseases. This particularly applies to a class of affections, which are of a recognized infectious nature, such as the acute fevers. But it also includes other conditions, where the seat of the morbid process is general or uncertain, and in which, while the pathology is not so satisfactorily established, the tendency is to recognize a causative or resultant toxine. Neurasthenic and hysterical states are instances of this class.

Under the first variety we have to consider neuralgia, which is nearly always connected with pains radiating into the abdominal walls, into the genitals or into the perineum, affecting therefore the ilio-hypogastric, ilio-inguinal, or genito-crural nerves.

Neuritis, if it occurs at all, is likely to be of that variety due to pressure on the nerve, or to involvement in an inflammatory focus, from which points the inflammation may ascend or descend along the nerve fibres, or its sheath.

Lumbago is a term which has been given such wide latitude, that it may include almost any painful condition of the lumbar region. It should be definitely restricted to that condition, where from exposure to cold and wet, or from injury to the muscles by overstrain or violence of some sort, there results a more or less sudden onset of decided soreness and tenderness, restricting movements, and producing a condition of slight or decided tonic spasm of the muscles involved. There is generally a history of a repetition of attacks in the same individual in cases when the cause is not distinctly traumatic. There is a relation either to myalgia or myostitis. Authorities do not make this very clear, there being apparently a division of opinion. It is somewhat probable that in some cases we have one process, and in some the other.

The joints of the vertebral column become frequently invaded in rheumatism. The cervical and lumbar regions suffer more often than the dorsal, although this discrimination may be more apparent than real, owing to the comparatively greater range of motion in the neck and lower back. The entire length of the column is sometimes affected. The cases are extremely few in which the disease remains limited to the spinal joints, and this fact greatly facilitates the diagnosis.

Traumatic arthritis needs only to be mentioned. The cause is generally too palpable to be overlooked.

The affection known as spinal irritation, or rachialgia, occurs as the result of moderate traumatism, or as a part of the hysterical or neurasthenic condition.

* Physician to the Philadelphia Hospital; Neurologist to the Samaritan Hospital, and to the Hospital for the Insane at Norristown, Pa.

Traumatic cases generally have the tenderness and the spontaneous pain, more definitely limited to distinct regions, and are less variable in degree than the other neuroses. In these we find now one, then another region more susceptible to pressure, although generally the greatest sensitiveness occurs in the neighborhood of the fifth and sixth dorsal, and about the second or third lumbar vertebra. To the writer it would seem that in hysterical cases the affection may be regarded as having a close kinship with the hysterical joint as found in other members. Writers explain this pain as being a neuralgic condition of the nerves, either of the spinal membranes, or of the vertebral joints, or both. This is quite tenable for traumatic or purely anemic cases, but somewhat more problematical for the hysterical.

Caries of the vertebræ may be almost painless, or give rise to very severe distress. The degree of involvement of the nerve-roots by the pressure upon them, or by participation in the inflammation, will determine the results.

In meningeal and cord inflammations there is generally a degree of pain felt at the seat of the disease, or in its immediate neighborhood, while another increment radiates from this locality to more distant points. This latter is apt to be the more distressing and is due to the involvement of the sensory roots. In some cases, and especially in cord troubles, it takes the form of a "girdle pain," and is then indicative of the level of the disease. In a certain proportion of cases the pain of organic cord disease is referred almost entirely to the lumbar region in a general way, regardless of the limitation of the disease. Thus the disease may involve the whole length of the cord, and yet pain be present only over the sacrum or in the loins.

Tumors of the vertebræ or cord give rise to no painful symptoms, except such as depend on pressure or inflammation. No peculiarities of character would therefore be likely to exist.

When lumbar pain is more indirect in character, of the so-called reflected or transferred variety, the mechanism may be a true transferrence, or may come about by neuritic changes arising in the nerves which extend to this region. These may occur as the result of pressure or from infection in connection with an inflammatory or purulent focus, the process extending along the fibre or the nerve sheath.

The condition known as "irritable testes" may produce spontaneous pain in the loins only, the testicle being extremely tender, but otherwise not painful. In fact, this would seem to be the more common condition.

Hemorrhoids and other rectal disturbances often cause more distress from lumbar pain than from that felt at the seat of the disease. Constipation in some subjects causes this symptom in a marked degree.

The constancy of pain in the lower part of the back in uterine disturbances of all kinds needs only to be mentioned categorically. Ovarian pains, too, are quite common here, although the crest of the ilium is the more frequent seat. In ovarian tumors and psoas abscess we naturally expect pressure symptoms, and of these lumbar pains are amongst the most frequent.

The pains of parturition, which are so constantly referred to the back, seem to me to be largely due to an intense cramp-like contraction of the muscles, which fix the lower segments of the spinal column. The effect of pressure on the nerve-trunks may be admitted, but this is more particularly present when the head is well down in the pelvis and causes radiating pains into the thighs. In thin women we can easily study the action on the vertebræ, which is to fix them successively from above downward as the pain proceeds. When nerves are actually torn or severely bruised, we have symptoms which belong to the post-parturient period as well as to the time of the delivery.

Floating kidney, nephritis, renal calculi, and pyelitis are all productive of lumbar pains. In the early stage of a renal colic the pain is in this region, while later, in the passage of the obstruction, it descends into the inguinal region.

I recall a very severe case of pneumonia in which the severe lumbar pain, during the first few days, with a comparative absence of any connection with the respiratory movements, and of other

symptoms directing attention to the chest, came near misleading me in my first attempt at a diagnosis.

Lumbar pains, arising from general diseases, are frequent in neurasthenia, hysteria, anemia, and other debilitating diseases.

Where neurasthenia is the result of sexual excesses, this lumbar, or rather sacral pain, is especially apt to be a marked symptom. While more or less constantly present, there occur acute exacerbations accompanied by a sense of great depression, and sometimes by vertigo or nausea. In these cases the knee-jerks are absent or much diminished, which is in marked contrast to the usual increase of this phenomenon in neurasthenia generally. They are especially increased in the variety known as cerebrasthenia, and here instead of backache, pressure and pain about the cranium are apt to be obtrusive symptoms. Lumbar pains, as well as some other of the symptoms of neurasthenia, are probably of lithæmic origin.

The backaches of hysterical subjects are frequently of the nature of spinal irritation or rachialgia.

Spinal anemia manifests itself largely by lumbar pains, which are aggravated by the upright or vertical position, while the contrary is very generally the case where debility arises from other causes than a pure anemia.

In all the specific fevers, pain in the back occurs as a part of the general malaise, and the same may be said of headache. In some of these disorders there is nothing that strikes the observer as specially disproportionate beteen the headache and the backache. In others again, one or the other rises into such prominence, by reason of its severity and constancy, as to become of high diagnostic value. Thus the persistency and severity of headache in typhoid, and of backache in small-pox, are both available in this direction. Small-pox has this symptom, especially marked, but it is also quite prominent in typhus and relapsing fever. While it is a severe symptom in influenza, dengue, yellow fever, septicemia and pyemia, there is so much headache here too that there is no notable disparity between the two, and the general aching and soreness also keep pace with them. There is, therefore, no special diagnostic significance in these cases, beyond the fact that altogether they point to an infectious or toxmic process.

Beyond this fact that they depend on irritations arising from the presence of deleterious organisms or their products in the economy, it is hardly safe to venture an opinion as to the mode of their production. If I were inclined to speculate in this direction, I would take capillary emboli as a starting point.

In Time To Come.

When the women all wear bloomers, and their skirts are laid away; when their legs are no more rumors, coyly hid from light of day; when the petticoat's forgotten, with its swishing, wishing swirls, and there's less demand for cotton, I'll be sorry for the girls. I'll be sorry for the lasses who in school are at their books, at the head or foot of classes—I'll be sorry for their looks; for their ma's will make their trousers, and, good heavens! don't we know, who were boys, but now sirs, that they'll be a holy show. It is bad enough when Willie weareth pants his mother made, and it often knocks you silly just to see the youthful blade wearing pants that no man knoweth which is front or which is back; if he cometh or goeth there is quite an equal "slack." But your Susie! Oh, 'tis galling; scalding tears will downward glance when you hear the urchins calling: "Say, where did you get those pants?" You will see her youthful glowing, but by no dead certain rule can you tell if she is going or coming home from school. There'll be trouble you'll allow, sirs, there'll be anguish for the pa's, when their daughters will wear trousers that are just revamped from ma's. So I'm weeping as I'm writing, and my great tears fall like pearls, scarce I know that I'm indicting for I'm sorry for the girls.

Medico Lecks—The deceased was shot between the hyoid bone and the insertion of the sterno-cleido-mastoid muscle.

District Attorney Rockaway—Do I understand you to say that wounds in this Latin part of the body are generally fatal?

CURRENT LITERATURE CONDENSED.

Origin and History of Disease Names.[1]

The origin of many of the names of disease in common use are very obscure, and yet a revised review of some medical authorities enables us to trace some of them to very interesting sources.

The word *scarlatina* first appears in English medical literature in Sydenham's *Observationes Medicarum*, published in 1676. The word is of Italian origin, having been actually employed by an Italian writer in 1527, and is derived from the Italian *scarlatto* (scarlet) in allusion to the color of the patient's skin. The English term *scarlet fever*, as applied to this very disease, was in provincial use in Sydenham's own time. The name *scarlatina* is Italian, and was long a vernacular term in use on the shores of the Levant before it was imported into Great Britain. Dr. Mason Good tried in vain, in the early part of this century, to replace *scarlatina* by the old term *rosalia*.

Another disease name of Italian origin is *iufluenza*, which was established in both popular and medical use during the epidemic of 1782. Huxham, in 1758, uses the term in its application to an epidemic "rife all over Europe." Dr. George Baker speaks of a severe pestilence called influenza, in 1743: "Influenza is a term directly imported into England from Italy, and imposed on our medical terminology by popular approval." Dr. Creighton points out that as early as 1554, the Venetian ambassador in London called the sweating sickness of 1551 an *influsso*, which is the Italian form of *influxio*. The latter is the correct classical term for a humor, a catarrh, or defluxion, the Latin *defluxio* itself having now a special limited meaning. It was, therefore, not astrology, but humoral pathology that brought in the word *influsso* and *influxio*, out of which Dr. Creighton suspects that *influenza* grew, rather than out of any notion of influence rained down from the heavenly bodies. Curiously enough, the same popular caprice which placed the named *influenza* in the list of specific diseases almost succeeded in finally degrading it into a synonym of a common cold; but the present cycle of outbreak, commencing in 1889, has finally dissociated the name with any form of catarrh.

In or before 1782, popular favor established the name *la grippe* in as firm a condition of acceptance in France as its rival *influenza* in England. *La grippe*, according to Joseph Frank, is derived from the Polish word *chrypka* (hoarseness), but was at once in France referred for its etymology to the French word *agripper* (to seize), the sudden onset of the attack in those afflicted apparently rendering this derivation a very likely and apt one.

The word *diphtheria* (from a Greek word meaning a pellicle or skin) was first used by Brettoneau in 1821, in a communication to the Royal Academy of Medicine, Paris. This new designation for a certain form of croupous inflammation was imported into English medical literature to a somewhat limited extent, and in the modified form *diphtheritis*. In 1855 Brettoneau, in a fifth memoir, altered his *diphtherite* into *diphtherie*, because, as Sir J. R. Cormack asserts, he had discovered that the disease was not of an inflammatory character. In 1857 a historical epidemic of the disease crossed the channel from France to England, bringing with it its eagerly adopted French title *diphtherie* in the slightly altered form *diphtheria*. The word appeared in the English medical journals in 1857, while those of 1858 actually abounded with it, as did the American medical journals for the same year. Its acceptance was widespread and immediate.

Croup, the name of a disease which is by some thought to be really diphtheria, was transferred during the last century from the lowland Scottish dialect into a permanent position in our medical nomenclature. The word easily came to designate the clinical syndrome of the acute cynanche in children, as in parts of Scotland *to croup* means to cry hoarsely, to croak as a raven, to make a hoarse, crowing sound. The word *croup* was first used in medical literature

[1] William Sykes, M.D., *London Lancet*, April 11, 1896.

by Dr. Blair, of Cupar, Angus, in 1718, who, in describing a hitherto unnoticed malady, gave it its local designation. In 1765 Dr. F. T. Home, another Scotchman, published his treatise on the malady, and the name croup obtained a permanent place in English medical nosology.

Measles is an old English name which the classical nosologists have in vain tried to replace by such synonyms as *morbilli* and *rubeola*. Dr. Skeat says that the word *measles* is derived from the Dutch *maseln* (measles). The disease is also called in Holland *masel-sucht*, the measle-sickness, so translated by an old English writer. The literal sense is "small spots." The original word occurs in the Middle High German *mase*; Old High German *masa*, a spot; Sanscrit *masura*, spots. Doubtless it is to this meaning of spots, hence "spotty" that we owe the term "measly pork," as applied to pork infested with the scolices of tenia.

Dr. Badham, in 1810, and Dr. Frank, in 1812, made use of the term bronchitis. The old name was peripneumonia notha, and the disease was very little known or investigated under that title.

The affection now called aphasia was in 1814 called alalia by Lordat, and in 1861 the name was changed by Broca to aphemia. But M. Chrysaphris, a Greek scholar, though accepting the term alalia, proposed as a better one that of aphasia, from alpha, privative, and phasia, speech.

The term typhoid fever was originally introduced by Louis, in 1829, and has been in general French use ever since. Dr. Wilkes, for theoretical reasons, proposed the name enteric fever as a preferable term, and this had for a long time quite a general acceptance, particularly among the writers connected with Guy's Hospital, but has never gained a footing in the language and literature of the people.

The black death which ravaged Europe, in 1348, is not to be found in any contemporary literature under that name. The term was first used by Mrs. Markham in her "History of England," published for children at the beginning of this century.

Since medical literature in this country has become essentially English, disease names, which are most in sympathy with the genius and structure of our language, or are actually drawn from our speech, are most suitable for adoption by us.

Chloroform or Ether?[1]

The question of which is the best and safest general anesthetic continues to be constantly brought under the notice of the profession by the frequent occurrence of deaths during anesthesia. The fact that opinions are still so divided shows that a good deal can be said in favor of both chloroform and ether; but one thing stands out pre-eminently, and that is, that when deaths do occur they are nearly always when chloroform has been used. It is also fairly evident that, so far, experiments on animals have not helped us much in coming to a right conclusion as to the safest anesthetic to use for the human subject.

One of the great advantages of chloroform is the very simple way in which it can be given even by one who has had very little experience in anesthetics. It is also fairly pleasant for the patient to inhale, and in the great majority of cases it answers the purpose admirably.

A few of the deaths reported lately are good illustrations of the different ways in which chloroform appears to kill. Some of the patients were obviously not fully under the anesthetic, as they were said to have "struggled, evidently feeling the pain," and immediately afterwards the heart and respiration stopped. Others in going under struggled violently and suddenly died. Another died just after he had been lifted from one place to another; while another succumbed apparently because the chloroform was administered to him whilst he was sitting upright. In two cases it was noticed that the heart stopped before the respirations, and several others read as though death was due to primary cardiac syncope. Chloroform, in some patients at any rate, appears to put the heart into a condition of instability—that is, in this state its action is affected and may be stopped by circumstances which at no other time have such influence on it. Hence, in-

[1] John Freeman, F.R.C.S., in *Bristol Medico-Chirurgical Journal*, July, 1896.

terfered respiration, the act of vomiting, the feeling of pain, etc., have all in their turn brought the heart to a standstill.

The large number of deaths that have happened lately in children shows that chloroform is not such a safe anesthetic for them as was once thought.

Since deaths are so frequent under chloroform, the question ought to be considered whether we are quite justified in employing this agent. It is true the chance of an accident happening in any particular administration is very small; but there is no doubt that in all those cases that ended fatally the anesthetists thought the same thing, and probably some of them told the patients as much. There are some who, because they have given chloroform a great many times without any accident, have come to look upon it as a safe agent; but while they have had good luck, others quite as experienced have not been so fortunate; besides, as only a small proportion of patients die in this way, many anesthetists will chance to have a large experience without a death. But at the same time, since we have no means of telling which patient will take chloroform well, and which one will die from it—a strong, healthy man being just as likely to fail as a weak one—it is doubtful whether we are doing the best for the patient when we proceed to give this anesthetic, unless there is some special reason why it should be the one selected.

Ether appears to be becoming more generally employed every year. There are several reasons why it is not used more. It requires an apparatus for its administration and is a little difficult to give. While one who has never administered an anesthetic before will be able to get a patient under fairly easily with chloroform, this is not usually the case with ether. Great difficulties may be met with by the beginner, and with a strong patient there would very likely be failure. Ether is not pleasant for the patient to take, and it is said not to relax muscles sufficiently in some cases. The most important objection, however, and the one which chloroform advocates use against it, is in its after-effects, particularly in regard to affections of the air-passages. These points about ether are worth some consideration. The difficulties connected with its administration are to a great extent preventable; it can be given in such a way that thirty or forty cases in succession will take it without there being struggling or any other difficulty; and when one sees a very muscular man go under without moving so much as a finger, as is frequently the case, it is difficult to believe that he is experiencing any very great discomfort. The causes of struggling, etc., are sometimes fairly obvious and may be due to too strong a vapor being presented to the patient at the commencement of the administration. The patient finding it impossible to breath this, although he may try his utmost, naturally begins to struggle for breath. Another cause is, that the ether is sometimes commenced when the bag is only half full of air, and some that is in it will very likely be allowed to escape, through the face-piece not being applied properly, so in a minute or so the bag is empty. The patient tries to take an inspiration, when the bag collapses, as there was so little in it. Under such circumstances, is it surprising that the patient, finding he cannot get any air to breathe, should struggle? Again, giving too much fresh air at an early stage of the administration is a frequent cause of struggling. You may see a patient begin to take ether perfectly, and he may have got to the stage where consciousness is just being lost, the breathing being rapid and forcibly expanding the air-bag at each expiration. Should at this period the anesthetist unguardedly allow two or three breaths of fresh air, trouble may be expected. A small quantity of fresh air at this stage will restore the patient's consciousness, and bring back sensitiveness to his air-passages. On the inhaler being re-applied, the patient instantly holds his breath, he feels and realizes the pungency of the now somewhat strong ether vapor, and struggling, vomiting, and other troubles rapidly follow each other.

Such points as these make all the difference to the sensation experienced by the patient, and very little practice will prevent those who are learning to give anesthetics from making such mistakes. I do not agree with those who say that ether will not sufficiently relax muscles

for some operations. I believe that continued rigidity of the muscular system depends much more upon how the ether is administered than upon any peculiar idiosyncrasy of the patient, and I never meet with cases in which I cannot for all practical purposes completely relax the muscles. All patients, in going under with ether, pass through a stage in which there is more or less rigidity. This passes off in most patients in a minute or two, but there are two classes of individuals—the alcoholic, and the very muscular—in which this may not happen. These remain rigid for some time; and you may have the ether on full, and limit the supply of fresh air to a large extent, and yet the spasm continues. These are exceptional cases and they require different handling, but it is a mistake to think that nothing more can be done to get them under. The appearance of the patient in this condition gives one the key to the difficulty. The muscular spasm is a general one, and so the muscles of respiration are included. The result of this is, that the patient becomes deeply cyanosed. On giving a plentiful supply of fresh air to remove this cyanosis, one notices at the same time that the muscles begin to lose their rigidity; so in these cases, when I find, after a good trial of ether, that the muscles do not relax, I remove the inhaler altogether, and let the patient have fresh air until his normal color returns and the rigidity begins to subside. Of course, this procedure brings the patient half round from his anesthesia, and his reflexes become active again, so on re-applying the inhaler it is very necessary to begin with a weak vapor; a strong one, by causing holding of the breath, etc., would bring back all the rigidity in a very short time. I have not met with a case yet which failed to go under completely on this second attempt, but necessarily the time taken to get one of these patients under is much longer than in an ordinary case.

With regard to the after-effects of ether, there are only two worth considering. The first is vomiting. In comparing the vomiting that takes place after ether with that of chloroform, so far as I have been able to observe, there is very little difference between the two. More patients vomit after ether than after chloroform, but the ether vomiting generally passes off more quickly. That long-continued vomiting, going on into the second or third day, which now and then follows chloroform, is very rare after ether.

Now we come to the chief objection to ether as an anesthetic; viz., that it sometimes produces affections of the air-passages; were it not for the possibility that ether may indirectly cause death in this way, chloroform would have been doomed long ago. In 1600 administrations of ether to patients of all ages, from six weeks up to eighty years, (many of them, too, were in long operations lasting two or three hours), I have met with one patient who had some bronchitis after. This was a woman aged twenty-three, who, however, made a good recovery. The anesthetic received all the blame; but I have also had a case in which bronchitis followed an operation in which chloroform was the anesthetic.

I think we have not to look far to find the reason of the greater safety of ether. The full bounding pulse of ether anesthesia shows how much the circulatory system is stimulated by it, and the rapid and deep character of the breathing proves the same influence on the respiratory organs. So if instead of using an anesthetic which has a tendency to depress both the respiration and the circulation (as chloroform has), we employ one that has a directly stimulating effect, we are much more likely to tide these "morituri" over their operations.

FAIR PATIENT—"Is there no way of telling exactly what is the matter with me, doctor?"

DOCTOR—"Only a post-mortem examination can reveal that."

SHE—"Then for heaven's sake make one. I don't see why I should be at all squeamish at such a time as this."—*Tit-Bits.*

"Father," said Sammy, "the teacher says you ought to take me to an optician's. He says I've got astigmatism."

"Got what?"

"Astigmatism."

"Well, if he don't thrash that out of you, I will.—*Exchange.*

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Treatment of Hiccough.

Varangot (*Independance Méd.*) controls prolonged hiccough by the following procedure: Some seconds after a contraction, the patient, standing and having relaxed any kind of constriction of his waist, makes a half-respiration; then immediately pinches his nostrils and begins to sip a half-glass of water regularly and without breathing. This must be done so long as possible, and if it is necessary, repeated.

Syphilis and Hypodermic Injections of Mercury.

Dr. Bayet (*Deutsche Med. Zeitung*, 1896) proscribes the use of insoluble salts (calomel, hydrargyr. oxyd. rubr., oleum cinereum). The hypodermic injections of soluble salts of mercury, like sublimate or peptonate, are, on the contrary, recommended. Hydrargyrum benzoicum is very often used and always gave good results. It is employed in doses of 0.01 grm. (gr. $\frac{1}{6}$). Its best formula is:

℞

Hydrarg. benzoic . . .	0	25	(gr. v).
Sodii chlor.	0	06	(gr. j).
Aq. dest.	30	0	(℥j).

S.—One syringe daily.

The sozoiodolicum hydrargyrum is employed in the following formula:

℞

Hydrarg. sozoiodol. . .	0	80	(℥ijss).
Kalii iodati	1	60	(℥ss).
Aq. dest.	10	0	(℥ijss).

S. One injection every five days.

Ulcer of the Stomach, Complicated with Hemorrhage.

According to the editor of the *Journal de Méd. de Paris*, it is necessary to condemn the patient to an absolute rest and immobilization of the stomach. The patient must not move nor leave his bed. Complete abstinence is to be recommended of even ice, of which the effects are rather noxious than useful. It can be employed externally, as compress of ice put on the epigastrium. If the hemorrhage continues, inject into the stomach a full syringe of the following solution:

℞

Extr. ergot	1	0	(gr. xv).
Aq. dest.	5	0	(℥jss).
Ac. carbol.	0	10	(gr. ij).

Give no nourishment, not even by rectum. Nevertheless, if the patient is not robust and the circumstances present immediate danger, have recourse exclusively to alimentary enemata, as follows:

Milk	250 grm. (℥viij).
Yolks of eggs	No. ij.
Salt	1 teaspoonful.
Red wine	1 tablespoonful.
Starch	1 "

M. S. Inject lukewarm and slowly, two or three times a day after an enema of pure water.

Pain is combated with narcotic remedies (chlorhydr. and phosph. codeini, gr. $\frac{1}{2}$–1). If there is constipation, administer an enema of lukewarm water, with soap, glycerin, olive oil or castor oil. The patient stays in bed in dorsal position for four or seven days after the hemorrhage. The aliments must be liquid and lukewarm (99°–100°): Milk and aqua calcis or milk with some tea or coffee, beef-tea, Koch's peptones, solution of Leube's meat, emulsions of the white of yolks of eggs, mineral water of Vichy. No chocolate; no wine. During the second week after hemorrhage, administer Leube's and Ziemssen's cure: In the morning and evening, 250 cc. of Carlsbad water with 5 or 40 grm. (℥jss or ℥jss) of natural or artificial Carlsbad salt. Permanently apply compresses, which must be so warm as to provoke a reddening of the skin. Diet mentioned above, with nutritive enemata, in case of great weakness.

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

Ferropyrine for Chlorosis.

In the treatment of ordinary chlorosis, the formula is as follows (*Journ. de Méd. de Paris*):

℞

Ferropyr. 0	60	(gr. x).
Syrup aurant . . . 20	0	(℥vj).
Aq. dest. . . q. s. for 200	0	(℥vss).

S. A tablespoonful three times a day.

For chlorosis, with dyspeptic trouble:

℞

Ferropyrine 0	60	(gr. x).
Acid chlorhydr. dil.	M v.	
German pepsine soluble 5	0	(℥iss).
Aq. dest. . q. s. for 200	0	(℥vij).

M. S. A tablespoonful after each meal.

For chronic gastritis:

℞

Ferropyrine 0	60	1.0 (gr. x).
Tr. opii 2	0	(℥ss).
Aq. dest. . q. s. for 200	0	(℥vij).

M. S. Two tablespoonfuls every three hours.

Guaiacol for Tuberculous Iritis.

Dr. Vignes (*Bulletin Méd.*, April 22, 1896) had under his care a case of tuberculous iritis, which the usual treatment did not relieve. The treatment consisted of administration of mydriatics, paracentesis, hydrargyrum, salicylates, revulsion, etc. He then had recourse to oily injections (1:15) of guaiacol and the result was remarkable; the most rapid improvement following.

Morning Diarrheas.

By this name Dr. Delafield (*Deut. Med. Zeit.*, April 20, 1896) calls a certain group of thin stools which take place during the early hours of the day.

1. The most ordinary cases are when a thin and slight stool occurs every morning right after breakfast. This state may continue an entire year or be interrupted by attacks of constipation. In such cases the sufferer does not generally consult the physician.

2. Completely different is the case where, instead of one stool, there are many. Some of these patients become so weak that they are unable to undertake any kind of work. In some cases will be found pain caused by the defecation and constant pain and cramp in the region of the colon. The irritation is so considerable that the least fatigue provokes diarrhea.

3. In advanced cases as soon as the patient gets up multiple defecations occur.

4. Some patients get the diarrhea after eating the first morsel.

5. The presence of mucus in the feces indicates a prolonged and rebellious case.

The treatment consists of: 1. A changement of climate, which is often very favorable. 2. Dieting. Here the following methods are proposed: (*a*) exclusive milk-diet; (*b*) exclusive meat-diet with hot water; (*c*) meat and milk; (*d*) a diet from which the carbo-hydrates are excluded. 3. In some cases daily stomach washings are sufficient. As to the medical treatment, opium is very useful to diminish the number of stools; nevertheless, the improvement exists only while this remedy is taken. A good result is obtained from bismuth. Salol and naphthalin are good in some cases, and in some have no effect. Arsenic, quinine, ipecac, belladonna and cannabis indica are useful. The best results are obtained by the author from castor oil in doses of five to ten drops.

Fissura Ani Treated without Operation.

According to Dr. Adler (*Deut. Med.-Zeit.*, 1896) fissura ani can be cured without any operative interference by extraordinary cleanliness with frequent washing and by regulating the stools by diet, slight purgatives or injections. The pain can be relieved by means of suppositories of opium and belladonna or ung. conii. The treatment, proper, consists of an application of nitrate of silver in solution of 2 to 5 per cent., preceded by an application of a 4 per cent. solution of cocaine. In addition to that the author recommends an unguent of calomel or zinc.

℞

Zinci oxyd.		
Plumbi acet. . . . . āā 0	60	(gr. x).
Vaselini 15		(℥ss).

Tape-Worm Treatment.

Norweigton proposes (*Therap. Monat.*, January, 1896).

℞

Sodii puri 0	75	(gr. xv).
Kalii iod. 2	25	(gr. xlv).
Aq. dist. 30	0	(℥j).

M. D. S. Ten drops three times a day.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, AUGUST 15, 1896.

EDITORIAL.

"DOCTOR."

The ethics of our profession is often discussed, more rarely the etiquette. Yet the latter is in direct dependence upon the former and is nothing but the practical expression of the Golden Rule, save as modified by certain persons who magnify the importance of forms.

How much is expressed in the one word *Doctor!* How many men have been recalled from temptation by the reminder of their professional responsibilities! Faust, about to yield to carnal inclinations, is checked by Mephistopheles' sneer, "Doctor! Doctor!" The title is a proud one, although humble if viewed from scholastic standards. It does not represent the attainment of public honors marked by LL.D., nor the years of patient and successful ministration rewarded by D.D. or S.T.D., much less the educational goal of Ph.D., the highest title which intellectual effort can achieve. The degree of Doctor of Medicine does not rank even with the Master's or the Bachelor's degree conferred by colleges, but it carries with it a dignity not inherent in any of the others, for it signifies devotion to a life work and fellowship in a noble army instead of an empty and relative superiority. The man who vaunts a literary or honorary title may rightly be accused of affectation. The use of the doctor's title can lead to no such sneer, for it is

open to any man and woman of moderate ability who is not truly illiterate.

"Doctor" is a shibboleth, the use of which is an index to one's familiarity with medical amenities. The young physician is sometimes puzzled as to the proper times for using the title and for omitting it. In general, it may be said to be correct usage to address any American physician or surgeon as *Doctor*, unless he is presiding at a public meeting. One holding a teaching position may be addressed as professor, and a military or civic title may also be used; but so far as the intercourse of medical men is concerned no title takes precedence over Doctor, and it is never out of place. On the other hand, we believe it to be better taste not to drag the professional title into business. In business or legal papers—and the signature to a prescription is no exception—the name should appear without the prop of either *Dr.* or *M.D.*

It is sometimes embarrassing to know how to deal with people who forget that a physician has no more claim to the title of *Mr.* than to that of *Judge* or *Hon.* All things considered, it seems wisest to follow that same rule of common sense which applies to correcting mistakes in the spelling or pronunciation of a name. If the mistake is made by a chance acquaintance, let it pass. If it is made by one with whom the physician is likely to come into frequent relations, make the correction as frankly as you would say "My name is spelled without the *e*," or as a woman would say, "It is *Mrs.*, not *Miss.*" It must be remembered in this connection that foreigners use *Mr.*, or its equivalent as a genuine mark of respect and not simply as a handle for a proper name. It would seem as much of a discourtesy for a German or Frenchman to address his physician simply as Dr., without using the title *Mr.* alone or with the former, as it would for us to be translated into classic times and to address our parents or distinguished strangers by their first names.

Physicians—at least those of the same school—invariably address one another in letters as "*Dear Doctor*," unless extremely intimate or unless the rules of some government service or other organization require an official form. It is, we believe, perfectly proper for one not in the profession to use the same form of address, though not customary except for those having frequent dealings with physicians—for instance manufacturing chemists and publishers of medical books.

The general rule that a title should not be used without the name of the person addressed is, by common consent, suspended, so far as our profession is concerned. Physicians often, in emergencies, meet without knowing each other's name, or a distinguished member of the profession meets so many colleagues at a society meeting or in his clinic room that the use of names would be practically impossible, while all embarrassment is removed by the custom of addressing all one's professional associates as Doctor.

Do not allow any one to call you *Doc.* The people who perpetrate this insult are too deeply steeped in vulgarity to be affected by anything but the plainest explanation. If Doctor is too long a title for them to use, ask as a special favor that they will call you *Bub.* We need not emphasize the fact that *doctor* is a noun and never a verb, but patients will continue to be "doctored," and occasionally we find a physician who has yielded to their bad example.

"They say riding a bicycle is health-producing." "Can't agree with you. I never had to pay so many doctor's bills as I have since I took it up." "But you look extremely hale and hearty." "Yes, but I mean the doctors' bills of those I ran over."—*Harper's Weekly.*

ABSTRACTS.

SUGAR FORMATION IN THE LIVER.*

In a communication made to the Physiological Society at its recent meeting at Oxford, Dr. Pavy related some experiments with regard to the post-mortem glycogenic action that occurs in the liver. It is well established that a considerable formation of sugar takes place in the liver after death. This is due to a hydration of glycogen into sugar, a phenomenon that is brought about by ferment action, and, according to Dr. Pavy's views, is the converse of what takes place during life, when the vital activity of the liver protoplasm produces a dehydration of carbohydrate matter by transforming sugar into glycogen. The view is, however, held by some physiologists that the transformation of glycogen into sugar, which occurs in the liver after death, is yet an act of vitality due to the continuance for a time of molecular life. The conversion of glycogen into sugar, however, is, Dr. Pavy said, readily effected by chemical and by ferment action, and *a priori* it appears superfluous to invoke vital action to account for such a conversion in the liver after death. Moreover, Dr. Pavy has advanced arguments to show that the production of sugar could not go on in the liver during life, as it does after death, without the production of diabetes. When the liver substance is treated with alcohol, the ferment which it contains is precipitated, but retains its properties, and when dried may be kept for an indefinite time.

In the experiment which Dr. Pavy described, the liver of an animal recently killed (the animals used were rabbits and cats) was well pounded with spirit, which removed the sugar present at the time; the product was dried without the use of heat and reduced to a powder, which it was found could be kept for use as required. When this powder was treated with water and kept in an incubator for two or three hours an active production of sugar took place. As a control experiment a similar quantity of the powder was plunged into boiling water which would destroy the ferment, and this specimen did not on incubation give evidence of the production of sugar. It is impossible to conceive, said Dr. Pavy, that a dry powder obtained by treating liver substance with alcohol, a powder which may be kept unaltered in a stoppered bottle for months, can retain vitality. In comparing the amount of sugar produced in fresh liver when incubated and that produced in the dried alcoholic precipitate, allowance has to be made for the difference between the dried and the moist state, and when this is done the results are concordant. Ordinarily, in an alcohol-coagulated liver, fairly rich in glycogen, the sugar produced (reckoned as glucose) amounts on incubation for two or three hours to 35 to 45 per 1000. In one recently experimented with it amounted to 53 per 1000.

These experiments, Dr. Pavy asserted, support the contention that the production of sugar in the liver after death is due to a ferment action, and not to the vital activity of the liver protoplasm. Briefly stated, his conclusions are as follows: The amount of sugar in a liver taken without any special precautions to insure rapidity of manipulation, is considerable; that which is present in a liver removed with rapidity immediately after death, and at once plunged in a freezing mixture and thus reduced to a temperature which would suspend both vital and ferment actions, is small. The saccharine condition of the liver taken after death by ordinary methods, is thus seen to be due to a post-mortem change. The fact that in liver substance, treated with alcohol, dried and powdered, a considerable production of sugar can take place under suitable conditions of moisture and temperature, is a proof that the change is due not to a vital but to a ferment action, a conclusion which considerations drawn from the nature of the chemical change rendered probable *a priori*.

* *The Lancet*, July 18, 1896.

CHLOROFORM—ITS METHOD OF ADMINISTRATION; ITS DANGERS AND THEIR TREATMENT.*

The apparatus should include a mask, chloroform dropper, a mouth-gag, strong tenaculum, and sponges upon holders. A hypodermatic syringe with digitalis and strychnia should be at hand and ready for instant use. The advantages of the mask are its simplicity and comparative cheapness. A still cheaper and yet practical substitute can be made from telegraph wire. The gauze covering the frame should, after each operation, either be boiled or thrown away. There is no question but that diphtheria, scarlatina, erysipelas, and other contagious diseases have been communicated to healthy persons by means of infected masks, and no person should be exposed to this risk when the prevention is so easy. I have purposely substituted the strong tenaculum for the regular tongue-forceps, for the reason that the latter is not an effectual instrument. Furthermore, it inflicts considerable injury to the tongue, which not only causes much discomfort to the patient in the days succeeding operation, but may in children seriously interfere with alimentation. The strong tenaculum, if fastened into the back part of the tongue, is a less harmful and much more efficient instrument.

Having covered the mask with some porous material to insure the admixture of plenty of air, we may begin by dropping a few drops upon the mask and holding the same a little distance from the nose and mouth. Beside the discomfort to the patient of beginning with too concentrated vapor, there is positive danger of producing arrest of breathing by the irritation of the terminal fibres of the fifth nerve in the nasal mucous membrane and of the superior laryngeal in the larynx. At most not more than twenty drops should be put on the mask at one time. These may be lessened as anesthesia proceeds, and should not be reapplied until the dark stain, caused by the preceding drops, has passed away. In a short time it will be found that two or three drops at a time suffice to maintain complete surgical anesthesia. Giving chloroform in this way has several advantages:

1. It does not frighten the patient or make him uncomfortable.
2. The excitement stage is almost always absent.
3. After-effects, like nausea and vomiting, are either absent or less severe.
4. The narcosis can be maintained for hours without danger.
5. The amount of chloroform used is less than one-half that in the ordinary way.
6. The danger from an overdose is almost *nil.*
7. The method requires the undivided attention of the anesthetizer, who is thus prevented from watching the operation to the neglect of his patient. The common practice of pouring a quantity of chloroform upon the mask to make it "last," that the anesthetizer may observe the operation with less interruption, is criminal.

The patient should close the eyes and either take full, deep, and regular breath, or, if too nervous to do this, an excellent substitute is to count, a procedure which insures regular breathing. Quietude about the patient, kind encouragement, removing the mask from time to time to give more air, telling the patient some of the sensations he may expect, such as slight choking, and hammering noises in his ears, and that when he begins to swim off into space he must not resist, will make most persons much more tractable. They feel assured that what they are experiencing is the expected and not of bad omen. The explanations and assurances are not trivial, for they aid in obtaining tranquillity, which in turn lessens the liability to respiratory and circulatory disturbances. In about five minutes, some sooner and some later, the average person will have become insensible. This period not infrequently, however, varies, and no one can ever predict with certainty as to the time that will be required in a given case to produce anesthesia. I recently operated upon a case

* John Parmenter, M.D., in the *Buffalo Medical Journal*, April, 1896.

in which an experienced practitioner had produced not even unconsciousness to the voice in one hour. Squibb's chloroform had been used, and after a time all air was excluded, so far as towels over the mask could shut it out. Investigation showed that the mask had been kept too wet. A dry mask and the drop method of administration produced anesthesia in five minutes.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, April 22, 1896.

The President, DR. J. C. WILSON, in the chair.

DR. H. A. HARE read a paper entitled

"AUTO-INTOXICATION, PRODUCING EPILEPTIFORM CONVULSIONS; HYSTERICAL SPASM IN THE MALE; INTESTINAL OBSTRUCTION; APPENDICITIS; PERITONITIS; OPERATION; RECOVERY; RELAPSE IN TYPHOID FEVER."

[See page 199.]

DISCUSSION.

DR. JOSEPH PRICE dwelt upon the importance of the central incision in cases like the one of appendicitis reported. It is also a matter of moment to free all adhesions in order to prevent the possible recurrence of symptoms of intestinal obstruction. The success of surgical treatment depends upon the relief of sepsis, and to this end the open treatment is most advantageous.

DR. HARE added that it was common in his experience with typhoid fever for either recrudescences or relapses to follow the too early ingestion of solid or semi-solid food. It would seem as though the change from a milk-diet to other form of food favored in some way renewed activity on the part of the typhoid and perhaps other intestinal bacteria.

By the invitation of the Board of Directors, DR. HORACE G. MCCORMICK, of Williamsport, read a paper entitled

"SOME OF THE THERAPEUTIC USES OF GUAIACOL."

[See page 202.]

DISCUSSION.

DR. J. V. SHOEMAKER stated that he had employed guaiacol especially in the treatment of such diseases of the skin in which formerly it had been the custom to employ creosote and carbolic acid—e. g., superficial epitheliomata, lupus vulgaris and old ulcers. The remedy has also been employed topically with success in the treatment of orchitis and epididymitis.

DR. H. A. HARE pointed out that guaiacol has pretty much the same powers and dangers as the coal-tar antipyretics, antipyrin, acetanilid, phenacetin, etc. It is, however, not so useful as the cold bath intelligently applied. It must be remembered that fever has some protective influence and may be viewed as the reaction of the organism to the invasion of the disease-process. The cold bath does more than reduce temperature. It has, besides, a distinctly vitalizing influence, stimulating in general the functional activities of the organism. Dr. Hare criticises the routine employment of the cold bath and maintained that this procedure is not to be pursued in every case, but only when other measures prove insufficient. The question is essentially one of dosage, and it is necessary to adapt the treatment to the disease as seen in individual cases.

DR. J. P. C. GRIFFITH said that he had used guaiacol externally in a number of cases of typhoid fever, but had given it up because of his inability to control its action. It had seemed to him difficult, if at all possible, to determine in advance how many drops of the remedy will be necessary to effect a given reduction in temperature, the dose affecting one patient not at all, inducing a great fall in temperature in another.

DR. J. M. ANDERS related that in an extensive experience with guaiacol he had twice observed its application to be followed by a rise of temperature to a point higher than the previous maximum temperature. He had therefore abandoned its use in cases of typhoid fever, and had confined its employment to cases of subfebrile and afebrile disorder. Thus the drug had yielded good results in the treatment of myalgias and neuralgic pains. For this purpose it was mixed—as Ferrard first suggested—with an equal part of glycerin and painted upon the affected surface. He had found that its hypodermic use proved even more effective than the topical application, a minim or two of guaiacol being mixed with ten minims of chloroform, and the dose repeated as needed.

Dr. Frank Woodbury pointed out that the action of guaiacol is probably to be attributed to its absorption into the blood and its influence on the thermic centres. Guaiacol has also proved itself useful in the treatment of pulmonary tuberculosis. It constitutes about sixty per cent. of creosote, which is the best single agent at present known in the treatment of tuberculosis. Carbolic acid and guaiacol do not act alike; the former is far the more toxic. On account of its disagreeable taste, guaiacol has been, in his own practice, largely superseded for internal administration by guaiacol carbonate. Under this plan of treatment it has been observed that hectic is reduced and retrograde changes effected in the morbid process in the lungs. Guaiacol has also been used endermically in phthisis, accompanied by high temperature, as recommended by Dr. J. Solis-Cohen.

Dr. S. Solis-Cohen stated that he had had an opportunity of seeing some of Dr. McCormick's cases and had come to the conclusion that the patients had passed through dangerous disease as safely and as comfortably as after any other mode of treatment. Nevertheless, he was unable to agree that the drug should supersede the cold bath. Briefly stated, it is an excellent means of treatment in suitable cases. Guaiacol internally is, like salol, an excellent antiseptic, and is capable of controlling the fetor of the stools. For this purpose the carbonate and the salicylate may also be used. It is a fair question whether the reduction of the temperature in cases of pulmonary tuberculosis by means of applications of guaiacol really does good and whether the patient is better off for it. The reduction is not permanent and the applications, to be effective, must be repeated frequently. The matter of personal idiosyncrasy must be taken into consideration, some individuals reacting to a moderate dose, while in others a large dose induces but a slight effect. Applications of guaiacol seem to prevent the growth of the diphtheria-bacillus in the throat. Dr. Cohen referred to two epidemics of diphtheria at the Pennsylvania Training School for Feeble-Minded Children at Elwyn, in which the outbreak was brought to a close by the topical application to the throats of the healthy children of guaiacol diluted with 50 per cent. of sterilized olive-oil, with the addition of ten per cent. of menthol.

Dr. A. B. Kirkpatrick referred to a half dozen or more cases of typhoid fever in which he had administered guaiacol carbonate internally, with the result of having the tongue clear and the appetite and digestion improve, while the temperature declined gradually from day to day, becoming normal in several cases within two weeks or less. The drug had also proved useful in the treatment of entero-colitis as a very safe and efficient intestinal antiseptic.

Dr. McCormick, in conclusion, replied that he had not observed any increased elevation of temperature after topical applications of guaiacol. The drug is, of course, not without its dangers, as all active medicaments are, but in the hands of the intelligent physician these are minimal. Whether the application shall be made or not must be determined in every individual case from the symptoms and general condition. Dr. McCormick repeated that while the fever is not the disease, it must at times be treated, whether guaiacol or the cold bath or other means are used for the purpose.

Dr. Joseph Price read a paper entitled

"Recto-Vaginal Anastomosis and Complete Extirpation of the Vermiform Appendix."

[See Vol. LXXIV, page 616.]

DISCUSSION.

Dr. George Erety Shoemaker said that while the cutting out of the end of the appendix from the cecum may be useful, if that part of the organ is cheesy or is sloughing this is not usually necessary. Almost always the disease is found not to have seriously involved the end of the appendix nearest the cecum, as that part has been well drained. Ligation also secures quick and thorough control of the blood-supply, while invagination of the stump yields perfect results without any danger of a gush of feces, especially when it is necessary to operate without securing perfect cleansing and collapse of the bowel by previous purgation.

The method of tying off the broad ligaments from in front in doing pan-hysterectomy from above seems scarcely to differ from the methods commonly employed and described in journals and books. After dissecting down the bladder and opening the vagina, the operator will naturally tie off in the most accessible direction. Dr. Shoemaker referred to a case in which, under special necessity of avoiding a misplaced ureter, he tied around from the front, with no thought of doing anything but an adaptation of a well-known operation.

Dr. M. Price reported a case of appendicitis in a young man, twenty-two years old, on whom he operated thirty-six hours after the first symptoms had appeared. The appendix was covered with inflammatory lymph, and the bowels were everywhere adherent. The peritoneum covering the appendix was amputated down to the indurated and thickened appendix. This was pushed back to the head of the colon, and the hard and indurated portion of the appendix cut out of the head of the colon. The peritoneum was pushed into the opening, and sutured with Lembert sutures. The vessels were tied in the mesentery. Thorough separation of adherent bowel and irrigation with gauze and rubber drain was effected and recovery ensued without bad symptoms.

PERISCOPE.

NEWS AND MISCELLANY.

Two cases of fatal rupture of the vagina during labor are reported by Fraipont in *Journal d'Accouchements*, both in multiparæ over forty. The presentation was transverse in both instances. Labor occurred in the first patient at the end of the sixth month after hemorrhages had continued for eight weeks. Marginal placenta previa complicated the shoulder presentation. Several days were wasted, and the patient was admitted into a lying-in hospital moribund. Version and extraction were at once performed, then a hole was found in the posterior *cul-de-sac*. Plugging proved useless; the patient died within three hours. No blood was found in the peritoneal cavity; the vaginal wall was torn through posteriorly, and the peritoneum in Douglas's pouch detached. The second patient was in labor at term; she had already been six times pregnant. After two practitioners had failed to deliver, the shoulder presenting, the patient was admitted into hospital very pale, yet but little flooding had occurred. The uterus was empty; the child lay to its right. A large child, dead, was extracted through a hole in the right lateral fornix. Part of the cord and placenta could not be removed. The patient died within a few hours. On opening the abdomen, the peritoneal cavity was found quite free from blood, but the whole of the posterior pelvic layers had been detached and pushed far upwards. Thus a wide cavity, in which the fetus had lain, existed below the peritoneum; it communicated with the vagina through the laceration, but there was no opening into the cavity of the peritoneum of any adjacent viscera.

The influence of climate on menstruation has been carefully studied by Joubert, and in an article in the *Indian Medical Gazette* he says that from a careful study based upon over 3,000 patients between the ages of ten and nineteen years he has arrived at the conclusion that the reason why girls in tropical countries menstruate at a relatively earlier age than Europeans is not because of the influence of the climate, but because of too much sexual excitement.

Congenital absence of a kidney has been investigated by Ballowitz in Virchow's *Archives*, and, according to the *Yale Medical Journal*, he has gathered the record of 213 cases, excluding those of fused kidney and partial atrophy of one kidney. Relative to sex this imperfection occurs nearly twice as often in males as in females, a circumstance attributable in a measure doubtless to the greater frequency of necropsies on the former; relative to age, three were twenty-three in foeti, most of which had some other malformation, especially imperforate anus; the others were about evenly distributed up to seventy years of age. All cases considered, this deficiency is more often on the left than on the right side, and though the left kidney is more generally lacking in males than the right, in females the defect is equally common to both sides. In form and relation, the solitary kidney was most invariably normal, but much enlarged, apparently owing to hyperplasia rather than hypertrophy. In many cases there were attendant deformities of the procreative organs, most constant on the side of the renal defect, the conducting channels being modified more than the glandular portions.

A plea for the use of criminals condemned to death in the interests of science through experimentation is made by Dr. J. S. Pyle, of Canton, Ohio. He says that a human being whom justice has condemned to suffer death has forfeited every naturally inherited right and indebted himself to society for the loss of one or, perhaps, more of its members and the expenses of a fair and impartial trial. This latter, justice exacts to the same extent as it does the death penalty, and, if the purport of the law is followed, the right to experiment upon capital criminals cannot be denied. Why a capital criminal should not be used in the interest of suffering humanity is hardly to be understood. Can intelligent people exhibit more sympathy to criminals of this class than to the patient sufferers dying daily from diseases that might be prevented by the knowledge gained from such experiments? Can a sentiment be respected which removes human sympathy from the suffering, law-abiding citizen to the capital criminal? Can the execution of a death sentence conducted in the same manner as a modern surgical operation be truthfully represented as more brutal and less sympathetic than hanging or electrocution? The facts are that in no way would it approach the frightfulness or brutality exhibited on the gallows or in the electric chair.

Much interest has always been felt from a medical point of view in the simulation of death by Indian fakirs. Dr. Kuhn (New York *Medical Journal*) has had occasion to observe two cases recently, the genuineness of which he had no reason to doubt. One of the fakirs in question had been interred for six weeks and the other for ten days. The fakirs, who are hysterical to the highest degree, possess the faculty of producing artificially a condition identical with cataleptic ecstacy. They use all possible means, such as mortification of the body by a special diet, the internal em-

ployment of different plants known only to themselves, and the adoption of a peculiar posture of the body for many hours, etc. When they have practiced this for a sufficient length of time, they assume one of the postures prescribed by the sacred books of the Indians and fall into a hypnotic condition induced by looking fixedly at the end of the nose. Hasheesh is still made use of by them to diminish the respiratory force, for this hypnotic, when associated with other plants and employed in a peculiar manner, make up for the loss of air and nourishment. The fakirs have hallucinations when hypnosis begins; they hear certain sounds, they see angels, and their faces express a feeling of happiness. But, little by little, consciousness disappears and the body acquires a peculiar rigidity. This is evidently, says the writer, a matter of self-hypnotism in hysterical persons who are sufficiently predisposed to it. This lethargy is looked upon by the people as death, and when the subjects are aroused it is God who has brought them to life. In Greek and Roman literature, says the writer, we may find accounts of persons who have died and returned again to earth. There is nothing astonishing in these facts, for Bouchut, in his treatise on the signs which enable us to recognize real death, reported the case of a woman who had been disinterred in order that a friend might look at her again. She was found to be alive, and she lived for many years afterward. Also in the Department of the North there was a case reported of a girl who had remained in a lethargic condition for several years. She had fallen into this condition on hearing that she was to be arrested for having committed a crime.

Alopecia areata may be much benefitted by a treatment with acetic acid and scarifications, according to Faivre, in the *Archives Cliniques de Bordeaux*. He ascribes the affection to a micrococcus, and says that by slightly scarifying the surface with the point of a bistoury and painting it with acetic acid a growth of pathogenic staphylococci substitutes the former growth, and recovery ensues. After the slight eschar thus produced has fallen off, a growth of natural hair follows, unless the trouble is complicated with a destructive folliculitis, or it proves to be the decalvant form, which resists all treatment and is probably of tropho-neurotic origin. It may be necessary to repeat the operation every day for a month, or more. Rigorous antiseptic precautions should be taken to prepare for the scarifications, and to prevent the spread of the affection in all its stages.

Some pediatrical dont's of great value are given by Dr. W. A. Newman Dorland in *Medical Progress*. Among them we find these:

Don't fall into the habit of ascribing the mother's fears and anxieties to an hysterical tendency which it is your duty to ignore. Listen to her, and profit by her suggestions.

Don't indulge in any sudden or violent movements while examining infants. Undue fright will thus be avoided.

Don't forget that the respiratory sounds, especially the inspiratory, are normally full and harsh in childhood. Hence the term "puerile" respiration.

Don't make a diagnosis of pulmonary cavity from the presence of the "cracked pot sound" in children. This sound may be elicited in pleurisy and pneumonia as well.

Don't forget that tubercular disease of the peritoneum and mesenteric glands is a frequent occurrence in early childhood and is usually indicated by great prominence of the abdomen.

Don't forget that the liver is relatively large in young children, and prominent below the ribs, even when there is no diseased condition present.

Don't diagnose the presence of intestinal parasites until one or more of the worms have been seen.

Don't fail to administer a purge of castor oil on the first appearance of greenish-colored stools. Especially do this if the season be hot and sultry.

Don't fail to suspect the onset of some grave disorder—scarlatina, pneumonia, or meningitis—whenever there is persistent vomiting.

Don't permit a woman suffering from grave constitutional disease—tuberculosis or syphilis—to nurse her child.

Don't permit a woman who has become pregnant to continue nursing her infant.

Don't wean a child until after the twelfth month, if possible to avoid doing so.

Don't permit a child to nurse from the breast after the eighteenth month.

Don't wean a child during the summer season, unless absolutely unavoidable.

Don't give a baby which must be raised artificially food preparations containing starch or its derivatives, glucose and dextrine.

Don't be alarmed at the great rapidity of the pulse. Any undue excitement or prolonged crying, or any slight febrile excitation will give rise to a pulse out of all proportion to the gravity of the general condition. A rapid pulse during sleep, however, is of more grave significance.

Don't designate the symptoms of rheumatism by the popular term "growing pains." Serious heart disease in its earliest stage may thus be overlooked.

Don't forget that tubercular meningitis is usually preceded for weeks or months by a gradual but progressive loss of flesh.

Don't mistake the relatively greater development of the head in proportion to the shoulders for a commencing hydrocephalus. It is the natural condition in the early weeks of infancy.

Don't forget that the pain of commencing coxalgia is first complained of usually in the knee of the affected side.

Don't mistake the normal breath sounds which are heard in auscultating the fontanelles for the bruit which may be indicative of commencing disease, hydrocephalus or rickets.

Don't forget that inability to speak, inability to walk, and other evidences of backwardness in children, may be due to some form of mental disorder, either idiocy or imbecility.

Don't forget to examine the urine frequently throughout the stadium of scarlet fever. Nephritis is a common sequel to this disease, and its onset must be watched with jealous care.

Don't vaccinate an infant while it is suffering from eczema or tooth rash.

Don't order large amounts of medicine. One or two ounces of the preparation will generally suffice.

Don't fail to remember that success in pediatrical practice necessarily depends largely upon acuteness of observation.

The liability to prosecution for damages in abdominal surgery was recently discussed in the New York *Medical Journal* by Dr. Cyrus A. Kirkley, of Toledo. He said that the average juryman looked upon the medical expert as a witness having a bias for the side calling him. After setting forth the reasons for a reform in the matter of medical expert testimony, he commended the plan adopted in England of having all the medical witnesses of both sides confer together before giving their testimony, and suggested that if the court were to appoint a medical commission to hear and pass upon the medical points involved, some of the present abuses would be avoided. He also quoted a legal opinion to the effect that a surgeon, operating in an emergency by abdominal section upon a patient who had no chance for life without such operation, should not be liable in damages if this view of the urgency of the case were concurred in by other well-qualified practitioners.

Hypnotism has its use in pediatrics also, according to Dr. Berillon. In the St. Louis *Medical and Surgical Journal* he states that the diseases of children in which the value of hypnotic suggestion is well-established may be divided as follows: Psychic troubles occurring in the course of acute disease, particularly insomnia, agitation and nocturnal delirium; some functional troubles, such as uncontrollable vomiting, incontinence of urine or of fæces, which may occur in the course of the same disease; functional difficulties concomitant with nervous affections, chorea, tics, convulsions, anesthesia, hysterical contractions and paresis, hysterical hiccough, blepharospasm, nocturnal incontinence of urine; also psychic troubles, such as irresistible onanism, onychophagia, precocious impulsive tendencies, nocturnal terrors, somnolence, kleptomania, pusillanimity and the manifestations of morbid emotions which are most often found associated, and which are regarded justly as stigmata of mental degeneration; also mental troubles which may be considered as complications of various neuroses (chorea, hysteria, epilepsy). The fact, however, should not be forgotten that hypnotism in children may produce decidedly disastrous effects, especially if frequently repeated. Suggestion even is far more potent than in adults under certain circumstances, and furthermore, both hypnotism and suggestion predispose to auto-suggestion of a pernicious type. This should lead to caution, especially when the epidemic neurotic tendencies of children are remembered. These frequently produce psychoses.

A simple and reliable test for posterior urethritis is given by the *Medical Brief*. The article says: The extension of a urethritis to the posterior or deep urethra, that portion lying behind the triangular ligament and including the membranous and prostatic urethra, generally occurs about the latter part of the third or during the fourth week of the disease, and is denoted by a well-marked train of symptoms, as follows: A feeling of heat and discomfort in the perineal region, frequent and precipitate urination accompanied by tenesmus and discomfort after urinating, and frequently, when disease is very acute, we will find more or less blood in the last few drops of the urine. We may also notice increased sexual irritability, particularly if the seminal vesicles become involved, denoted by frequent and prolonged erections and involuntary emissions. In such cases, if we request the patient to pass his urine in two glasses, that in the first glass will show the urine as it comes from the bladder, plus the washings of the whole urethra, that in the second the urine of the bladder plus what has drained back into it from the posterior urethra. Therefore if this second urine contains pus, we know that it must be the result of posterior urethritis (in the absence of previous disease of the kidneys or bladder), and in most cases this will prove a very simple and reliable test.

Abortion has been caused by the use of guaiacol, and hence much care should be used in prescribing this drug for pregnant women. Dr. J. Petrasko (*Centralblatt Medicin*) reports the case of a woman, twenty-nine years old, three months pregnant, who had an infiltration of the apex of the left lung, for which she was given infusion of senega, also three-quarters of a grain of pure guaiacol every morning and noon. On the eighth day, when she had received in all twelve grains of guaiacol, abortion took place, and it could not be otherwise accounted for than as having been due to the drug. It is remarked that phenol and its derivatives exert a paralyzing action on the vaso-motor centres, so that they may produce abortion by causing defective

nutrition of the fetus. It is added that the patient was of a nervous nature and may have had an idiosyncrasy for guaiacol.

Potassium nitrate gives excellent results in burns of whatever degree when administered in baths or in application of compresses that have been wet with the salt, or in lotions that contain the nitrate. According to M. Poggi, in *Revue Medicale*, the nitrate acts especially as a refrigerant. As it becomes dissolved in the water it produces a notable lowering of the temperature of the liquid of from 5° to 9° F. If a burned hand or foot is plunged into a basin of water, to which a few spoonfuls of the nitrate have been added, the pain ceases rapidly; if the water becomes slightly heated, the pain returns, but it is allayed as soon as a fresh quantity of the salt is added. This bath, which is prolonged from two to three hours, may bring about the definitive disappearance of the pain and even prevent the production of blisters. The application of the compresses also exercises the same influence. By this means the pain is allayed and cicatrization takes place without delay. Another remedy in the treatment of burns is calcined magnesia, which, says the writer, has been employed by M. Vergely, who obtained favorable results with it in burns of the first and second degree. The affected parts are covered with a thick layer of a paste which is prepared by mixing the calcined magnesia with a certain quantity of water. This paste is allowed to dry on the skin, and when it becomes detatched and falls off it is replaced by a fresh application. Very soon after the paste is applied the pain ceases, and under the protective covering formed by the magnesia the wounds recover without leaving the cutaneous pigmentation which is so often observed to follow burns that have been allowed to remain exposed to the air.

The use of mercuric bichloride promises well in cerebro spinal meningitis, according to Consalvi in *La Semaine Medicale*. He used it hypodermatically, and gives reports of his observation in nine cases occurring during an epidemic of grip at Cassli, Italy. Only one case, that of a girl, aged seven, proved fatal, and in this case there was temporarily an improvement following the injection. The dose varied from .005 milligrams to .01 centigram, according to the age of the patient, administered once in twenty-four hours in the beginning and later once in forty-eight hours. The oldest patient treated was nineteen years, the youngest fourteen months. Most of the symptoms are relieved after the first two or three injections, though muscular rigidity persisted in some cases until after the seventh or eighth injection. In one patient an acute mercurial stomatitis developed after the tenth injection, and in another (both girls) a bloody diarrhea of short duration seemed to be the result of the mercury. Other therapeutic measures employed were leeches, ice, calomel in purgative doses and bromide or morphine to quiet the patient when necessary, with iodide of potassium during convalescence.

The use of mercury in tubercular disease is growing in favor, and a French physician has recently published some valuable observations upon the treatment. The *Practitioner* says he chiefly used the drug in the form of hypodermic injections of corrosive sublimate, and carried out the treatment for many months with regularity. The results described are very remarkable, because they consisted, for example, of the gradual drying-up and disappearance of tubercular glands, and of chronic diseases of the nose and eyes; and in at least one instance, in which a patient with a tubercular family history was evidently suffering from incipient consumption, this method of treatment was followed by speedy improvement, and finally by apparent cure. The treatment will doubtless receive a very careful and extensive trial in this country, although it is at first sight difficult to understand or explain its *rationale*. Mercury is known to be a resolvent of certain forms of new growth, notably those due to a specific cause; but it is, at the same time, so depressing when given in larger or long-continued doses, that it has probably never before been widely employed in the treatment of tubercular diseases. It is a curious illustration of the influence of fashion in therapeutics that, after being terribly abused, and partly falling into discredit for half a century, mercury is now being largely used again, and with the greatest benefit, in many widely different diseases.

Some of the old-time popular sea-side resorts of Southern New Jersey, which for years have suffered for lack of adequate railroad accommodation, are showing in a notable degree the results of the present improved transportation facilities. Those who "go down to the sea" by rail, now may leave Philadelphia and reach Sea Isle City within seventy minutes, or Cape May within 100 minutes. This great improvement is the result of the excellent facilities and superior service afforded by the South Jersey Railroad. Express trains leave Chestnut Street and South Street wharves for Sea Isle City 9.15 A.M., 4.15 P.M., and 5.15 P.M; for Cape May 9.15 A.M., 2.15 P.M., 4.15 P.M., and 5.15 P.M. In addition there is on Saturdays the 1.00 P.M. "Flyer," for both Sea Isle City and Cape May.

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2059. SATURDAY, AUGUST 22, 1896. VOL. LXXV—No. 8

ORIGINAL ARTICLES.

THE SOURCES AND CAUSE OF IRREGULAR FORMS OF MALARIA.*

JAMES H. WILSON, M.D., DOVER, DEL.

The recognition of the parasite origin of malarial fevers will obviate much of the confusion that has arisen in the medical nomenclature as to what is implied by the term malaria.

In this country the term is synonymous with swamp or ague poison, and by other authors in accordance with its etymology as a general term is made to include all kinds of disease produced by bad air. Aitken speaks of "paludal malarious poison" and of "animal malarial poison," and says that this toxic poison is capable of inducing certain morbid phenomena known as intermittent and remittent fevers, the recognized forms of the so-called regular types of the disease. It was generally assumed that the intermittent and remittent forms of fever are due to the same cause, and the difference in type is supposed by many authors to be a difference in degree only, the remittent being a manifestation of exposure to the poison in a more intense form.

This view seems to have received support from the fact that during convalescence from remittent attacks, intermittent fever often occur.

Sir Joseph Fayer in his work on the "Climate and Fevers of India" says: "Remission and intermission, however, are not to be regarded as absolute indications of degree of intensity; for a remittent may be comparatively mild, while an intermittent may become pernicious." This author, however, regards the types of malarial fevers as only different modes of expression of the same thing. And according to him such terms as jungle fever, terai fever, Bengal fever, Deccan fever, etc., merely express local varieties with no fundamental differences, though there may be certain subordinate features which distinguish each, depending on the local climate and meteorological conditions.

Whether conditions relating to climate and local surroundings, act upon the cause or upon the patient in modifying the type of malaria diseases, is an unsettled question; possibly they act in both ways.

Morehead, in his "Researches on Diseases in India," observes: "When the conditions of malaria exist in a great

* Read before the Delaware State Medical Society, June 9, 1896.

degree, remittent fever prevails, but when these lessen the type becomes intermittent. Dr. Chevers, in his recently published "Practical Notes," affirms: "I believe almost to a certainty that intermittents and remittents are not degrees of development of the same malady or the results of one and the same cause."

"The malarial fevers of Baltimore," an analysis of 616 cases of malarial fever with special reference to the relations existing between different types of hematozoa and different types of fever, says on page 99: "While in our experience we have seen nothing which would justify us in positively denying the possibilty of the change of an organism from one type into another, according to the influences to which it is subjected. We have seen nothing whatever to suggest that this does occur, and we are decidedly inclined to believe that tertian, quartan and æstivo autrimnal parasites are permanently different varieties, of closely allied sporozoa."

W. S. Thayer and J. Hewston, authors of the Hospital Reports referred to in this work, are the only experiminters in this country whose investigations are deserving the appellation of a "Treatise on Malarial Poison." I wrote those gentlemen a few days since, and after quoting the paragraph above given I said: "Will you kindly tell me your views with reference to the so-called kindred malarial poisons or irregular forms of malaria? Are they distinct parasitic varieties or are they degrees of the same poison, influenced by local conditions? I refer to such diseases as periodical rheumatism, periodical neuralgia, orbital and intercostal neuralgia, spasmodic croup, hay fever, rose fever, influenza, lagrippe, spasmodic asthma, occurring with regular intermissions, erysipelas, hematuria and all diseases where the abnormal or pathalogic phenomena are characterized by a periodicity not less pronounced than the regular intermittent fever." To this query I received the following reply:

DR. J. H. WILSON.

My Dear Sir:—Your letter was received this morning. It is rather hard to answer your questions in the space of a letter, but I will try. Our observations agreeing entirely with those of the Italian and Russian observers, have shown us that the tertian and quartan parasites cause the great majority of the fevers occurring in the early part of the malarial season, and that these are in the great majority of instances quite regular in their manifestations, showing, in the simplest form, tertian or quartan paroxysms.

In our climate the quartan parasite may be almost left out of consideration, as it is so rare, only an occasional case occurring in a year in our large hospital material. Double infections with the tertian parasite, causing daily paroxysms, are very common. When one speaks of the regularity of these attacks it must be remembered that we are speaking in the stricter sense of the word, referring not to the subjective symptoms of the patient but to the actual behavior of the temperature or the systematic and regular measurements. Thus it is very common for a patient with double tertian fever to come to the hospital complaining of chills at irregular intervals, while temperature measurements will show a regular paroxysm occurring daily. As these, however, may vary in severity, some being associated with a chill and others not, the patient often gives a record of irregularity which is often, as far as the history goes, misleading. In the fall of the year with us, and with you beginning in the latter part of July and reaching its maximum in September and October, we see the cases of more irregular fever, which are due to the estivo autumnal parasite. Now in all three varieties of fever it must be remembered that before the actual onset of the chills there may be quite marked prodromal symptoms. Thus in a case of inoculation with the parasite it is found sometimes that several days before the onset of sharply-defined paroxysms the patient has vague symptoms of headache, aching in his legs and back and other symptoms common to all infectious diseases. So it may happen not so very infrequently in private practice that a careful examination of the blood may reveal malarial parasites in association with headaches and backaches before there has been any sharp outbreak of fever. Again, the same is true after insufficient treatment with quinin. It is of course always to be remembered that the mere presence of the malarial parasite in the circulation is not enough to cause the paroxysms. They go through the regular cycle of existence and multiply, and it is only upon reaching a sufficient number that actual sharp paroxysms may occur. With every period of sporulation a certain number of parasites are destroyed, otherwise with the enormous power of multiplication which the organisms possess every case would become rapidly pernicious.

In some instances it has been shown, in characteristic tertian or quartan malaria, that after the first well-marked paroxysm so many parasites have been destroyed, that it takes practically a fresh incubation period, seven to fourteen days, before they reach sufficient numbers to produce a paroxysm again; so that the clinical picture is one of fever at long intervals. It is not impossible that there exists a certain number of cases where for a very considerable time, either before treatment or after insufficient treatment, the organisms are present in the blood in sufficient quantities to produce appreciable subjective symptoms without actually resulting in a sharp outbreak of fever.

Such a case I have recently seen in a boy who showed tertian parasites in his blood—who had had febrile attacks—and after considerable treatment at irregular intervals went some days with very marked subjective symptoms of headache, nausea and vomiting at periodical intervals; while careful measurements of the temperature showed no fever.

It is not unlikely that these cases are more numerous than we suspect. With regard to the other diseases of which you speak, there is no evidence to show that malaria can in any way be the direct cause of rheumatism, cramp, influenza or erysipelas. In association with certain malarial infections they may be very severe in the extremities and in the back, but it seems to me this is not to be confounded with true rheumatism.

On the other hand, there is no doubt that a patient whose general physical condition has been reduced by previous malarial infection is much more open to a secondary complicated infection—rheumatic, erysipelatous, diphtheretic—or whatever it may be. I think we must not, however, here forget that malaria is only a predisposing cause of the process. From the literature there would seem to be no doubt that there is some association between supra-orbital neuralgia and malarial fever, and yet in six years' experience in the hospital and in the out-patient department of this institution I have never seen a case of supra-orbital neuralgia which was associated with malaria. Of course I think, in connection with this, we must remember that a supra-orbital neuralgia which is benefited by quinin is not the same thing of necessity as a supra orbital neuralgia due to malaria.

I have seen one instance of rather severe supra-orbital neuralgia in an individual suffering with chronic malarial cachexia, where, however, there were ocular disturbances of another nature present, which might well have accounted for it. It was not relieved by quinin.

With regard to malarial hemoglobinurias, the parasites, which have been described in those instances, appear to correspond with æstivo autumnal variety, though Pleba, who has recently written upon the subject, believes that they are a different organism. The weight of evidence is in favor of the former view.

There is no doubt that hematuria may occur in estivo-autumnal infections.

Very truly yours,

W. S. THAYER.

Thayer and Hewston in the course of their studies reach the conclusion that the tertian type of fever depends on the presence in the blood of a parasite that passes through its cycle of existence in about forty-eight hours. The segmentation of this organism at intervals of about forty-eight hours is always associated with a febrile paroxysm. Frequently owing to the presence of two sets of organism there are quotidian paroxysms. Quartan fever is rare in Baltimore. It depends upon a blood parasite that undergoes segmentation which is associated with a febrile paroxysm every seventy-two hours. Double or triple quartan infections are possible. In regard to the estivo autumnal fever they concluded that it is due to the organism described by Marchafor and Selly but that the cycle of existence of this parasite has not yet been followed out in entirely satisfactory manner. It probably varies from twenty-four to forty-eight hours or more. The main seats of the infection with this organism are apparently the spleen, bone-marrow, and other internal organs. But few stages of the development of the parasite are ordinarily found in the peripheral circulation. This organism causes fevers that vary greatly in their manifestations. They may be quotidian or tertian intermittent fevers, or more commonly more or less continuous fever with irregular remissions.

The mode of infection of irregular forms of malaria is doubtless identical with those of the regular forms. I do not mean that its parasitic origin is identical but that the method of admission into the system is similar, namely by respiration, and by the alimentary canal through the drinking water; possibly by absorption through the skin.

"When a poison," says Bemiss, "generated outside of the human system obtains admission to it and produces deleterious effects, three questions naturally arise. What is the essential character and natural history of this noxious agent? How does it obtain access to the human system? What is the mode of action when received?" The first question with reference to the toxic poison is happily settled. We have fairly well defined notions as to the means of access. The morbid processes are manifest in paroxysms of fever, pains in the head, back and limbs. We can reorganize the parasite in its various stages of development in the blood. By culture these germs can be propagated and by inoculation into the system these parasites may be reproduced and with them the morbid phenomena induced by their existence. Yet our knowledge of zymotic poisons that float in the air infect swamps and meadow lands, and are conveyed by fogs, smoke and dust; noxious agents in the shape of bad water, impure vegetables, damp cellars, humid atmosphere,

is comparatively in its infancy. The material poison is conveyed into the system in numerous methods but ever and always in disguise. We can place no embargo upon its entrance into the system, and cannot quarantine the micro-organism except, that, knowing the habitat of the poison, we may improve our supply of drinking water, cut ditches and canals through swamp and meadow lands, shorten and straighten water courses, drain ponds and make the banks of streams erect, thus preventing pools of shallow water having no exit from remaining exposed to the direct rays of the sun. From these sources the poison is carried into the blood. At the head of the stream, so to say, we study the life and growth of these micro-organisms and only through their morbid manifestations, are we able to determine their presence. And with these pathological manifestations, goes as an accompaniment, dysentery of which Professor Aitken says: "It may be stated as a general proposition that there is no country where paludal fever exists in which dysentery is not an endemic and prevailing disease. In the East and West Indies and China, Ionian Islands, Gibraltar, Malta, the Canadas, Holland, coasts of Africa as well as in different parts of France, of the peninsulas of the Continent of America and of the Eastern part of Great Britain. The prevalence of intermittent or remittent fevers and of dysentery is notorious."

This connection is so intimate that a given number of persons being exposed to the action of paludal miasmata, as for example a boat's crew sent ashore in a tropical climate, the probabilities are that of the men returning on board part will be seized with dysentery, and part with remittent fever. Paludal fever and dysentery moreover are not only conjoined in locality but they often coexist, or precede or follow each other in the same individual, so that fever frequently ends in dysentery and the dysentery in remittent fever. This proof of the common nature of these diseases is corroborated by every writer of any celebrity and more especially by those who have detailed the diseases of our armies.

But dysentery also prevails where there is no other evidence of the presence of malaria. Woodward in "The Medical and Surgical History of the Rebellion", says: "The opinion that the poison, whatever it be, which causes the intermittent and remittent fevers is capable of acting upon the intestines under certain circumstances and of producing diarrhea and dysentery has been expressed by many writers upon malaria and malarial fevers. Colin has recently attempted to prove that it is the use for drinking purposes of the water impregnated with decomposing organic matters which is so often found in marshy regions that causes the intestinal catarrh and dysenteries which occur in these districts, while the malarial fevers are the result of aerial emanation. This suggestion if true would afford an explanation of many facts especially in military experience which are more difficult of explanation."

Typho-malarial fever, so called, a term coined by Dr. Woodward during the late Rebellion as causing a form of dual fever, it is not in fact a specific disease. Dr. Woodward has admitted the disease was typhoid fever with malarial complications, and just here it may not be inopportune to say that the clinical thermometer has placed a great many cases of so called remittent fever where they properly belong, as true cases of typhoid fever. But in all cases of miasmatic poison, dysentery, diarrhea, typho-malarial fever, Roman fever, Naples fever, mountain fever, infantile remittent, Malta fever, continued remittent fever are all more prevalent in marsh districts. Mr. Colin devotes ninety pages of his work to the study of the influences which contribute to the development of malaria in the Roman Campagna. He says malaria is produced everywhere in the Roman Campagna and has no specially limited foci, marshy or otherwise. It draws its origin from the growing vegetation. Again he says: I think that far from seeking the cause of fever in the vegetation of marshes, it is rather to be sought in the inverse condition.

Indeed the poison is above all caused by the vegetative power of the soil when this power is not brought into action, or when it is not exhausted by a quantity of plants sufficient to absorb it. This is so true that in swamps themselves vegetations seems to be the condition most efficacious to reduce these noxious ex-

halations. This was also the opinion of George B. Wood. "There is reason to believe," he alleges, "that the miasm which produces such deleterious effect upon the animal system is capable of contributing to the nourishment of vegetables. This perhaps is one of the reasons why bilious fevers prevail, especially in autumn. The vegetation of spring and early summer is vigorous and adequate to the consumption of all the products of the organic decomposition that may be going on in the soil while that of autumn is inadequate. Among other products the miasmatic exhalations may be consumed but toward the close of the season when many plants have run their course and begun to decline they cease to appropriate this as well as other food if it do not remain in the soil." (Wood Practice Med., Vol. I, page 171.)

I quote from an article of much merit that was printed in the MEDCIAL AND SURGICAL REPORTER, January, 1896, from the pen of J. B. Cowan, Tullahoma, Tenn.: "It has long been the generally accepted opinion of the profession that malarial fevers found their cause in the atmosphere about them and that the poison was received by inhalation or absorption by the surface of the body. That this may be partly true we shall not attempt in this paper to deny. We shall, however, assert as true that the malignant types of malarial fever, and in fact almost all forms of malarial fever, are indebted to the water we drink and not to atmospheric conditions for the etiological factor in the transmission or reception of the pathogenic material which produces malarial fever. It is not necessary here to enter upon a lengthy or detailed description of a true malarial habitat, or to discuss how malaria is produced, it is sufficient to say that water in saturation with solar heat are the two factors necessary to its production. Sand, clay, earth, wood and decaying vegetable organic matter may all become malarial producers when saturated with water subjected to sufficient solar heat. In contradistinction, allow me to say, that water in globule never produces malaria, but becomes an absorber and retainer of this pathogenic material and may become loaded with this poison almost to saturation. Trees, wells, springs, creeks, and branches may become so loaded with this poison that a single glass of water may contain pathogenic material sufficient to produce a case of intermittent fever.

Without entering further into the manner of its formation, or the power of water in globule to absorb or retain this pathogenic factor, disease producer, we will endeavor to give proof that the water we drink is the great factor and principal source of malarial fever in all its forms, but especially in the malignant types. In 1855 I was practicing medicine at a small village that had at one time been considered the sickliest place in North Alabama, but for some years before my going there had become one of the healthiest. Learning of these facts I became inquisitive to know the reason or cause of the change.

"Near this village is a magnificent spring, very large and bold, affording sufficient water to run a grist-mill only a few hundred yards below. For fifty years or more citizens used water from this spring, and no one supposed that this clear, limpid, cold water carried disease and death in the form of malaria, producing in the citizens the most malignant type of fever. Just prior to this change from sickness to health I found that the citizens had supplied themselves with wells and cisterns—not to improve their health, but for convenience. Immediately following the change of water the place became healthy and the annual sickness disappeared. I learned that two miles due west from the spring there was a cave spring, and that small articles dropped into that cave spring would come out at the big spring at the village. Mr. J. lived near by and used water from this cave spring. Three-fourths of a mile due east of Mr. J. lived Mr. W.; he had also had a cave spring, from which he used water. Directly between Mr. J. and Mr. W. was a marsh—a pond in the winter and spring, but dried up in the summer and fall. I examined this marsh; the surface was dry and cracked from the solar heat; a few inches below the surface was mud, this furnishing a true malarial marsh or habitat 600 yards in length and by 400 yards in width. Mr. J. used water before it reached the marsh, Mr. W. after it had passed the

marsh. Here is the singular fact. Mr. J. never had malarial fever in his family, and Mr. W. never escaped a single year, and at the time I made this examination every member of his large family was having chills. I went to Mr. J.'s spring and dropped into it some shavings of wood, and then went to Mr. W.'s spring, and had not long to wait until here was the evidence that the springs were supplied by the same stream. I put in more shavings of wood and went to the big spring at the village, pouring out under a great bluff, and after a while here came the proof that the stream was the same. The problem was solved—the present healthful condition of the village was because they had changed their drinking water. I persuaded Mr. W. to get his drinking water from Mr. J's spring. He did so, and his family recovered and no new cases occurred."

Several similar cases are reported by Dr. Cowan, showing drinking water to be the source of malarial fevers.

With reference to the topography of the country generating paludal fevers, I wish to state that in 1876, at Chester, Pa., an effort was to reclaim or utilize the marsh land on the south side of the town along the Delaware River. The soil was drained and the surface covering a great many acres was dried by the action of the sun's rays. After this the heavy sub-soil plough exposed to the sun, the roots of a heavy vegetable growth that was allowed to remain without any further effort to reclaim the land. During July, August, September, October and November 1876 there were hundreds of cases of pernicious fever in that vicinity. Most of the cases were severe and there were a number of deaths from infantile remittent fever, all occurring on the south side of the town. The citizens of the northern and western part of the town were free from any form of malarial fever.

The pathological manifestations as observed in the patient's of Dr. Cowan caused by impure drinking water, in the light of the researches of Thayer and Hewston was doubtless due to the æstivo autumnal variety of parasite. The same is perhaps true of the pernicious fevers of Chester caused by inhalations of the vapors from the upturned soil of the marsh lands, but what form of bacteria caused the infantile diseases, tonsilitis and dysentery, that were also prevalent in an endemic form? and in what form is each of the poisons taken into the system?

MYDRIASIS A NECESSITY TO ACCURATE REFRACTION.

GERTRUDE A. WALKER, M.D.,* PHILADELPHIA.

Young ophthalmologists are frequently surprised to find that certain important principles in their branch of medical work still rest upon debatable ground. The question of the necessity of using a mydriatic for purposes of refraction ought long ago to have been so thoroughly discussed and so intelligently and finally settled that no room for doubt could be left in the minds of ophthalmologists and of general physicians, nor, indeed, in those of opticians and the public. On the contrary, the subject is yet an open one. Ophthalmologists disagree among themselves in a matter of the utmost importance to the study and practice of refraction of the human eye, some maintaining that it is entirely unnecessary to subject a patient to the annoyance occasioned by the use of a mydriatic, others affirming that it is impossible to do the patient justice unless the ciliary muscle is set at rest. While such wide difference of opinion exists, it is not fair to blame either the optician or the public for adopting that point of view which is to them the more lucrative and (for the time being) the more comfortable.

There are a few stern facts from which

* Clinical Instructor in Ophthalmology at the Woman's Medical College of Pennsylvania.

no ophthalmologist of sense and fairness can appeal, such as:

1. An eye not under the influence of a mydriatic is capable of concealing absolutely a part of its hyperopia and astigmatism.

2. The ophthalmoscope is at best an unreliable instrument for refractive purposes.

3. Subjective tests are inaccurate, often misleading, and particularly so when the ciliary muscle is active.

If one admits the truth of these statements he cannot deny the necessity of mydriasis to accurate refraction; yet there are ophthalmologists who repudiate all three by declaring that they can accurately estimate refractive errors in eyes that are not physiologically at rest. They write articles which condemn the use of mydriatics, thereby promoting confidence in the incomplete and often very faulty work of opticians, and creating in the minds of the public in general a distrust of ophthalmological methods. Their reasons might easily be proved inadequate and even absurd by reference to such facts as the three above quoted, but, unfortunately, their unscientific ideas find credence with general physicians who have neither time nor inclination to examine the subject. It is convenient to believe that mydriasis is unnecessary, and many physicians send their eye cases to opticians for refraction believing that in this way they save their patients both time and money.

Compare the methods of the conscientious ophthalmologist with those of a would-be conscientious optician, and see which are the more reasonable and trustworthy.

Having noted the history of a typical case of ametropia in a young person, and having tested the vision for far and for near, the ophthalmologist examines the fundus of each eye. If he is skilled in refracting with the ophthalmoscope, he gains an approximate idea of the focal error in the eyes, but he can not be sure how much the patient is unconsciously concealing or to what extent he himself is accommodating. The day of prescribing glasses by the ophthalmoscope has passed. If the case presents no contra-indication to the use of a mydriatic, homatropin is instilled at the office, or a solution of hyoscyamin, duboisin, or atropin is prescribed for use at home. The ciliary muscle having been paralyzed, the eye is no longer capable of concealing its refractive error. The purely objective test of skiascopy may now be employed, and if one uses this intelligently the correction can be ascertained to within .25 D. or (some claim) to within .12 D. The subjective test is next applied, and skilful use of the crossed cylinder will decide the matter within three minutes and within .12 D., provided the skiascopic test has been approximately accurate.[1]

Prescribing the lenses to be worn now becomes a matter for judgment. Suppose case A.: A vigorous young man of thirty has 6 D. of hyperopia complicated by 1.50 D. of astigmatism with the rule. Ordinarily an ophthalmologist would not think of obliging the patient to wear his full correction.[2] All the astigmatism should be corrected and as much of the hyperopia as can be overcome without serious discomfort to the patient. Suppose case B.: A child of eight years is suffering from intense and almost constant headache. Mydriasis develops 2 D. of hyperopia in one meridian and 2.50 D. of myopia in the opposite meridian. So easily do children accept their full corrections, even when high cylinders are required, that the physician need not hesitate to prescribe in such a case the lens which overcomes all the focal error. Experience teaches the art of good prescription writing in ophthalmology as well as in general medicine. Under ordinary conditions the prescription is given on the day the test is made, and, in fact, it is desirable to have the patient obtain his glasses so soon as possible and wear them before the effect of the mydriatic has passed away.

Let case A seek the advice of an optician. The recital of symptoms suggests no particular form of ametropia to the optician's mind. Even the aid of the ophthalmoscope is not available. Disease, which may be accountable for impaired or fitful vision, is entirely

---

[1] All ophthalmologists do not employ the same methods for the estimation of focal error. The methods quoted are intended to be illustrative, not arbitrary.

[2] In using the term "full correction," we understand always that .25 D. has been subtracted from the result obtained under mydriasis at a distance of 4–6 meters.

overlooked. The case, if a purely refractive one, may be one of hyperopia or of myopia, for a defect of 6 D. of hyperopia with astigmatism would be likely to affect distant vision. The case may be one of astigmatism,—simple, compound hyperopic, compound myopic, mixed or irregular. How can the optician guess which? He tries lens after lens, relying wholly for his conclusions upon the impressions of his patient. If the optician is a fortunate guesser, he may conclude to give a low convex sphere combined with a low convex cylinder axis 90°. The patient uses this very incomplete correction with some temporary relief. But his headaches are still troublesome, and he feels that his glasses might be improved upon. He seeks the optician again, who either increases or diminishes the strength of the glasses at a venture, vaguely hoping he has done the right thing. Again there may be temporary and partial relief, but at last the patient goes in desperation to an ophthalmologist, whose methods under mydriasis reveal for the first time the total amount of hyperopia and astigmatism, and whose advice becomes trustworthy because it is not based upon a practice of guessing. The patient is inconvenienced by mydriasis for twenty-four hours, or even for a few days, but if he had originally sought the advice of an ophthalmologist he would have gained time, money and comfort.

The question of muscle-testing need not be touched upon in this paper, although in passing it may be noted that there are opticians who prescribe prisms without having obtained an accurate knowledge of the focal error in the eyes under their care.

Because the general physician does not appreciate the importance of having refraction work done scientifically, the practice of ophthalmologists is becoming more and more dependent upon the influence of opticians who now and then are forced to confess their limitations and to refer patients to offices for examination under mydriasis. Young ophthalmologists are subjected to a great deal of humiliation at the hands of opticians who solicit their office and clinic prescriptions. Commissions are offered, mutual benefits proposed, promises made. The optician argues "from a business point of view," he stealthily leads the young doctor away from his ideals, assuring him that older and better men in the profession pay their office rent with what they receive from opticians. The situation contains a temptation to the average young physician. He may put aside once for all the thought of accepting a commission, but the proposition about sending prescriptions and receiving patients in return seems fair and right. He has come to realize that this is the surest means, after all, by which his practice can be made to grow. Alliance with the optician seems the most open way to success. He has long since given up the hope that his associates in the general profession will send him cases for refraction. They are playing into the hands of opticians, failing to realize that in so doing they give unsound advice to their patients and at the same time cast an indignity upon the profession.

There is at least one optician in Philadelphia who boasts openly and in print that he refracts *for physicians*, that his business is practically maintained by the profession. This man calls himself a "refractionist," and lures custom by promising to use no drops in the eyes. He searches among the archives of medicine for reports of cases of poisoning from the use of atropin, duboisin and cocain, cuts them from their context and prints them to serve his own purpose of deceiving the community. Our honorable medical literature is degraded to a use for which it was never designed. And every day this man pursues his practice in the heart of a city noted for medical preëminence! The reproach of it rests with the doctors who supply him with patients. He extorts prices which are beyond reason, but which seldom occasion dissatisfaction, for patients trust their physicians and believe their recommendation must be worthy of highest confidence. This man is bold, but only a little bolder than thousands of opticians everywhere who claim to be able to correct focal error in eyes whose real condition they are totally incapable of appreciating.

Until physicians realize the importance of intrusting their patients to skilful and conscientious ophthalmologists for refraction, we cannot expect to do a

great deal toward stamping out an evil that is not less than criminal.

Since without mydriasis refractive error cannot be accurately estimated, and since mydriasis should be induced only at the hands of a physician capable of appreciating the condition of the eye-ground, it follows that refraction is properly a department of medicine, and as such should not be suffered to pass from the hands of the physician to those of the layman.

THE ABUSE OF DIGITALIS.*

W. T. ENGLISH,† A.M., M.D., PITTSBURG, PENNSYLVANIA.

Digitalis is one of the most abused drugs of the materia medica. It appears that in the minds of a large number of the medical profession the pathological range of its application has no limitations. There is a very general want of agreement as to the conditions in which it is applicable, as well as to the amount that should be considered a proper dose. Notwithstanding accepted theories and well-established facts, which should control its exhibition, digitalis has been introduced to every malady in the catalogue of diseases, and is consequently made the subject of unwarrantable criticism and ever-increasing abuse.

There is no medicine that requires so much skill in its administration as digitalis, and no other has the boundaries of its utility more precisely defined. However, it is fair to claim that fifty per cent. of the digitalis prescribed is not in accordance with the accepted theories, and probably not more than one-fourth of the cases subjected to its influences are treated in harmony with strictly scientific methods.

It is erroneously assumed by some that the special effects of digitalis, like those of some other drugs, are arithmetically augmented in every direction in proportion to the amount administered. The small dose that will secure arterial tension is thus substituted by the larger dose that will diminish it. Under similar circumstances the small amounts that fail to produce diuresis are alternated with the more liberal doses which enhance the diuretic action. The small doses that slow the heart's movements, and the larger doses which accelerate them are exhibited in the same case. To the observing man it is extremely rare to find a case in which large and often-repeated doses of the tincture are admissible. The conditions that indicate the utility of large doses are usually more amenable to the infusion.

Digitalis is too often regarded as a cure for "heart disease," rather than a remedy to be employed in a pathological condition that may arise in the course of heart maladies. In consequence of this vague notion of the drug it is employed from the mildest manifestations of nervous palpitation to the severest cardiac lesion, the variation being in the increased dosage and from one form of the drug to another. Now the tincture is prescribed, again the infusion, and anon the powdered leaves or the alkaloids, agreeably to the caprice of the prescriber, and regardless of the stage of the malady, the conditions, or the nature of the case. It is indeed rare to find the application of a certain form of the drug to the special condition to which it is most perfectly adapted in a remedial sense. The tincture, which should be employed for its tonic effect upon the heart, is often substituted by the infusion, which should be employed in conditions where diuresis is desirable. If the effects of both forms are needful to the relief of the conditions, a combination of the tincture with the infusion is rational and most commendable. However, the tincture is almost invari-

* Read before Pennsylvania State Medical Society, May, 1896.

† Professor of Physical Diagnosis in the Medical Department of the Western University of Pennsylvania, and Consultant in Chest Diseases in the South Side Hospital, Pittsburg, Pa.

ably prescribed by some, and the infusion is equally popular with others. Some will maintain that the powdered leaves contain all the virtues and therefore should always be employed. The objection to the use of the leaves is that they are not readily assimilated and consequently the effects are postponed and some are lost.

Because it is claimed that in digitalis we have a drug which increases the force of the heart and contracts the vessels of the periphery—except those of the kidneys—it is employed indiscriminately as an ideal diuretic in Bright's disease, notwithstanding the contra-indications observable in capillary tension and cordy pulse. Such irrational therapeutics can result in naught but harm.

There is a great diversity of opinion as to the period of time digitalis should be continued. It is often forgotten that although its effects are slow in their oncoming, they are also very deliberate in their leave-taking, and it is possible to demonstrate their presence after a period of one week, or even a fortnight, has elapsed after discontinuing the use of the drug. It seems almost foolhardy to use it in chronic nephritis when it is accompanied with high peripheral blood pressure, as it usually is, unless preceded by a short course of nitro-glycerin to relieve the peripheral tension.

The busy practitioner too often forgets that digitalis, in moderate doses, stimulates the musculo-motor portion of the heart and its contained ganglia, increases the activity of the inhibitory apparatus, and, possibly, causes contraction of the arterioles by an action on the vaso-motor centres in the cord. A fact that is not only forgotten but frequently ignored is that in normal conditions of the heart muscle there is want of cardiac stability, and it has the capacity to adjust itself to the demands made upon it. In those whose vocations force them into the extremes of bodily exertion, the heart becomes muscular in proportion to the demands. In response to temporary or protracted influences that perturb the heart and induce over-exercise without diminution of tonicity of the myocardium, as in functional or reflex disorders, the same result follows. Digitalis is often administered under these circumstances to steady or quiet the cardiac tumult. In my humble opinion, this is a flagrant abuse of a good medicine and an unpardonable sin against the heart. It is but an added goad to an already overworked organ. Moreover, if the stomach, from whence the disturbing impulses often proceed, is already irritated, the presence of digitalis will augment the difficulties in geometric ratio by increasing nausea, heightening the cephalalgia, and other symptoms of gastric distress. Cardiac arythmia, of myopathic origin, or reflex, toxic, or nervous in its nature, cannot present a reasonable cause for employing digitalis. If it be exhibited in palpitation, due to neurotic conditions, there will be a possibility of converting the curable disorder into an incurable malady.

One of the most universal abuses of digitalis is the habit of prescribing it for a patient without advising him to abstain from exercise while under its influence. There are very few physicians who have not been disappointed by its results from the counteracting influence of exercise. All patients taking digitalis should live in perfect physical and mental quietude, as there is danger of adding to the perils of the diseased conditions demanding its use by omitting this precaution.

In congenital malformation of the heart the prospective long continuance or frequent repetition of the drug and the chronic protracted influence it must exert, should deter the thoughtful medical man from prescribing it. It will ultimately cause myocardial weariness and want of vigor.

In mitral regurgitation there is a time when the administration of digitalis achieves its greatest clinical good. The opportunities for its good action are often permitted to pass by on the one hand, and upon the other the drug is sometimes administered so prematurely that its most effective opportunities are lost. It must be remembered that in mitral regurgitation the two chambers of the heart are practically one, and increased vigor of the ventricle augments its suction power during diastole as well as its propulsive energy in systole. Through this dual service the engorged pulmonary circulation is unburdened

and the anemia in front is also relieved. This is the only condition in which it can secure such results.

Digitalis seldom becomes the sovereign remedy of derangement of the compensation in mitral stenosis it should, either because of undue haste in prescribing it, or on account of tardiness in its employment.

In aortic regurgitation it is sometimes employed in a thoughtless or careless manner. It is a dangerous medicine and often harmful in this valvular malady. If the diastole is increased and prolonged the period of regurgitation and its force are augmented and the difficulties multiply.

The only excuse for prescribing it in aortic stenosis is to give vigor to the myocardium when the tendency to dilatation is announced. If it slows the action of the heart notably it may add to the valvular systole or occasion tetanic contraction.

It is deplorable to see a well-informed physician employing it in conditions of compensation. Many a case of benign hypertrophy has thus been goaded into myocardial weariness and weakness that disabled it from keeping up its work. In the absence of dropsy in all cases where the urine is voided freely there is little, if any, call for digitalis. Even under the circumstances of oncoming myocardial weakness and dropsy, the best results are lost by failing to aid the action of the drug by diminishing the work of the heart and by utilizing all the means for relieving the limitations placed upon the circulatory apparatus. This may be accomplished by purgatives, paracentesis, puncture of edematous limbs, and at times by local or general blood-letting.

To use digitalis in all forms or conditions of heart disease is an abuse of one of our best remedies, that only differs in degree from the disposition that appears among some of the profession to make of it a cure-all.

OBSCURE TRAUMATIC LESIONS OF THE ENCEPHALON.*

WALTER H. PARCELS, Lewistown, Pa.

Injuries of the head require more skill on the part of the surgeon than do injuries located in any other part of the body. Lesions of a surgical nature connected with the encephalon are always obscure. Difficulty in diagnosis is the first lion in the way that confronts the surgeon when called to such a case.

If there is a wound of the scalp, accompanied by fracture of the skull at almost any point save the base, a prompt and reasonably accurate diagnosis is entirely possible; but even then a grave doubt exists frequently as to how much injury the encephalon may have sustained. The prognosis should always be guarded. If, however, the symptoms lead us to suspect a fracture at the base with its accompanying injury to the brain, a prompt diagnosis is utterly impossible. The details of a case I attended last November clearly illustrate this last statement. I encountered a crowd of excited people in the roadway surrounding a twelve-year-old boy. Possibly fifteen minutes before he had been thrown from a horse going at full gallop. Many had seen the fall but none could tell the manner in which the boy had struck the ground. A hasty examination showed extensive bruises on both legs, the left ear full of blood and the hair on the left side of the head saturated with blood. The boy was comatose. In a few minutes he vomited profusely but rallied only enough to moan occasionally while I was taking him to his home, a half-mile distant, where I made a careful examination. Removing the matted hair I found a scalp wound the size of a silver quarter. The skull was smooth, periosteum not injured at this point or any other place that my fingers could reach. On removing the blood from the

*Read before Pennsylvania State Medical Society, May, 1896.

ear the supply was slowly reproduced. The whole amount of bleeding from the ear was probably a dram or two. The boy vomited again, moaned frequently, rolled his head from side to side when I touched the wound and swore when I applied the sutures, but gave no heed when spoken to.

The pulse was about 110 and feeble; the extremities were cold, and in short there were well-marked symptoms of shock.

I diagnosed concussion of brain with a possible fracture at base of the skull and more or less injury to the encephalon. Prognosis doubtful. Dressed the wound antiseptically, applied warmth to body, etc., and left him for the night.

The following morning the case was about the same, there being no further signs of returning consciousness. During the next twenty-four hours he lost a little. The pulse was getting very slow, sixty to seventy per minute, temperature slightly subnormal. During the next week there was no return of consciousness. Paralysis of left arm and leg was indicated by movements of the boy's body, external squint of left eye-ball, and drooping of right eye-lid. The pulse was frequently down to fifty per minute, temperature generally below normal, respiration very slow and marked by frequent cessations, indicating the near approach of death.

He would swallow when anything was placed in his mouth so he was given milk and a combination of potassium iodid, potassium bromid and digitalis and an occasional suppository was used.

For the first time on the ninth day he made an effort to protrude the tongue when I asked him to. This was apparently the first he had heeded anything said to him. The Rip Van Winkle sleep now began to leave him and he was soon able to talk. At the end of four weeks he could walk very well and seemed all right save that he was weak and the left foot seemed still a trifle paralyzed. Three months later the boy was entirely well but still had a tendency to diplopia.

What was the correct diagnosis in the case? Was there a fracture of the base of the skull? Was the encephalon injured? If so, how much? Was there a better plan of treatment than mine? I shall always incline to the opinion that the skull was fractured at the base, that there were small clots located at different intra-cranial points, that the meninges were more or less injured and that the recovery was exceptional. I shall regard head symptoms with much concern should the boy in future be attacked with any serious illness.

Case II. More than twenty years ago a young man while at work received what his fellow-workmen thought a very slight blow over right ear. He continued his work for an hour or so and then, feeling slightly nauseated, went home, where his mother, addicted herself to the opium habit, gave him a dose of morphine, probably a third of a grain, but it might have been more.

I saw him two and a half hours after the receipt of the injury. He was then profoundly comatose. Cold water dashed into his face finally elicited the word: "Don't."

I examined his head carefully, but found no sign of fracture of skull. There was, however, a contusion (slight) just above right ear. The few movements of the body showed complete paralysis of left side. The pupils were contracted.

Diagnosis, blood clot at seat of injury on right side, brain greatly compressed at this point. Was there morphine poisoning? Well, I simply didn't know, but didn't believe it existed. However, I gave strong coffee, placed the patient in a comfortable position and awaited results. They came in just thirteen hours after receipt of the injury and came on the wings of the silent messenger, whose approach we all await with fear and trembling.

A post-mortem was held the following day. There was no fracture of the skull, but a large clot, possibly six ounces or more, was found at the seat of injury. The skull was exceedingly thin, and some of the blood vessels of the pia mater were ruptured. Was a correct ante-mortem diagnosis possible in this case? Was there anything more I should have done in the way of treatment?

Case III.—Some ten years ago a three-year-old boy fell from a second story window upon a wooden step. He

was first seen by another physician. The case came into my hands, as the family physician, six hours later. The boy had remained in a comatose condition all the time. There was a well-marked contusion directly in the centre of the forehead. There seemed to be no injury anywhere else. Was the skull fractured at this point? What damage had the encephalon sustained? Was this coma due to concussion? The boy surely was conscious of pain, for he tried to roll the head beyond my reach when I touched the injury.

The other physician assured me that the boy was less sensitive to the touch immediately after the receipt of the injury, and a careful examination then showed that the skull was not fractured. I accepted his diagnosis of severe concussion of the brain.

There was probably no extravasation of blood, for there plainly was no paralysis, the boy being able to move all his extremities. I hoped the brain tissue was not injured. I treated the case on the expectant plan after having given a very guarded prognosis. The eyes soon became closed a result of the swelling, the patient did not rally, and about three days after the injury had a severe chill. He seemed to shiver, and had on the arms that well-known symptom called "goose-skin." The temperature immediately became very high. At this point I think acute meningitis supervened. The patient gradually grew worse and died about three days later.

Was there meningitis in this case? Was the skull fractured and a spicele of bone driven into the brain? I never felt that I quite did my full duty by accepting the diagnosis given by another, when I was the family physician. I think I should have etherized, and, if need be, cut down and carefully examined the bone for fracture. The final result though would probably have been the same.

These three cases sufficiently illustrate the points I wished to cover in this short paper.

I was about to give what I believe to be the recognized surgery of to-day in cases of obscure traumatic lesions of the encephalon, but what is the use? The treatment to-morrow may be different from the treatment of to-day. These *fin de siecle* days are halcyon days for the surgeon. The discoverer with flaming torch goes boldly forth to startle the world, while the surgeon with restful mein leans back in his easy office-chair and awaits the day when he can say to his assistant: "John, please get out the X-rays and take a cathodic photograph of that patient's brain, so that we may know whether we shall need the trephine and forceps to remove a spicula of bone; or the trephine and section pump to remove an intracranial blood-clot."

That tobacco has a bad effect upon the sight is now definitely conceded, and a distinct disease of the eye is attributed to its immoderate use. Many cases in which complete loss of sight has occurred, and which were formerly regarded as hopeless, are now known to be curable by making the patient abstain from tobacco. These patients almost invariably at first have color blindness, taking red to be brown or black, and green to be light blue or orange. In nearly every case, the pupils are much contracted, in some cases to such an extent that the patient is unable to move about without assistance. One such man admitted that he had usually smoked from twenty to thirty cigars a day. (*Nursing Record.*) He consented to give up smoking altogether, and his sight was fully restored in three and a half months. It has been found that chewing is much worse than smoking in its effect upon the eyesight, probably for the simple reason that more of the poison is thereby absorbed. The condition found in the eye in the early stages is that of extreme congestion only; but this, unless remedied at once, leads to gradually increasing disease of the optic nerve, and then, of course, blindness is absolute and beyond remedy. It is, therefore, evident that, to be of any value, the treatment of disease of the eye due to excessive smoking must be immediate, or it will probably be useless.

Phthisis and pneumonia are more frequent and fatal among men than among women, while cancer and apoplexy kill more women than men.—*Med. Age.*

BILIARY CALCULUS AND ITS DIAGNOSIS.

P. J. FARNSWORTH, A.M., M.D., CLINTON, IOWA.

Looking over a recent article in a medical journal on "Cholelithiasis and Jaundice," I am reminded of a case that came under my observation a few years ago.

Being present in a public hall where some discussion was going on and some personalities were used, I saw a large, well-formed man fall to the floor as if in a fit. I immediately went to his assistance and found him writhing with the most intense pain in the hypochondriacal region, and almost pulseless. He soon was in a profuse perspiration. Having my syringe with me I gave him an injection of a fourth grain of morphine and then allowed him to inhale some ether that I happened to have with me. He soon rallied, and was assisted to his home, where, for several hours, vomiting persisted. After that he recovered and was out the next day.

In about two weeks I was called to his house to find him in something of the same form of a paroxysm. I made as thorough an examination as possible for the cause. The attack came on a little before dinner. Nothing unusual had been eaten; the bowels had moved in the morning. The heart was beating in a tumultuous manner, but gave no evidence of enlargement or valvular disease. Nausea and vomiting came on and the hypodermic injection was the only resort. Nausea persisted during the following day. His wife said that he had had such attacks for a year or more, usually brought on by some mental excitement, the first one by a quarrel occurring in the foundry where he was employed.

He was a large, well-formed man, of middle age, who had never suffered from ill-health, but was rather inclined to be nervous. His business was that of superintendent in the pattern shop of a foundry.

I diagnosed the case to be neuralgia of the stomach, occasioned by some irritating substance in that organ. He seldom or never used alcoholic beverages and never used tobacco. An attack came on after a Sunday walk; another when he attempted to set up the parlor stove. He was chosen police magistrate and had had several paroxysms while conducting court, always referable to some personal passages with attorneys or prisoners. After holding the office for some time, he was rather summarily dismissed from it, and had an attack on the street when he had started for home.

He located the pain at the edge of the ribs on the right side. It lasted for four or five hours, only dulled by the morphine, and was followed by considerable jaundice. This passed off in a few days, but not long after he consulted me for palpitation and irregularity of the heart's action. I attributed this to dyspepsia, and gave him a tonic, which relieved him. He continued his business, avoiding excitement of every kind as much as possible. He had still occasional attacks, and I had come to regard them as of nervous character, and gave him bromides, which gave some relief. After a day of more than usual fatigue a paroxysm came on that was followed by fever and symptoms of hepatitis. Obstinate vomiting followed. Food would be retained for a time and then be thrown up partially digested. There was much pain in the right hypochondriacal region and between the shoulder blades. The urine became heavily loaded with bile. The bowels responded to a mercurial purgative. This condition continued for two or three months. Jaundice came on in a very decided manner Phlebitis set in in the left leg; the inflammation of the liver was not marked, neither was there at any time a high fever.

Death finally came from exhaustion. A post-mortem examination was obtained twelve hours after death. The lungs were sound, the heart healthy and of normal size; the stomach was enormously enlarged, its walls very thin; the pyloric orifice much thickened but

open. The liver was enlarged and softened in places, showing a stellate structure of white and red of a half inch in diameter. The gall-bladder was a lump of two inches in length and an inch in diameter; a sac filled as tightly as it could be packed with gall-stones in the form of dice, and some of them as large as those usually played with, smaller at the ends and rounded to conform to the shape of the gall-bladder. The kidneys were large and waxy. The urine had been albuminous during the last month of life. The skin and all the tissues were of the deepest orange hue.

He died at the age of sixty-eight, and had been troubled in this manner for about ten years. The curious old notion of anger stirring up the bile seemed to have a confirmation in this case. It is probable that at first there might have been a passage, or an attempted one, of culculi, but afterwards the spasms must have been produced by the presence of so large a number. Cholelithotomy would have been the proper treatment, but there were no certain symptoms to indicate the necessity for this until the last illness, and then the history would hardly confirm the diagnosis.

In numerous post-mortems that I have witnessed, gall-stones were found, sometimes large ones, that during life had given no symptoms of their presence. Probably it is the smaller ones that give the most trouble by entering the duct. Perhaps at some time we may discover a remedy that will dissolve the stones in the gall-bladder or prevent their formation. Sweet oil has long been a popular remedy. Chloroform in small doses, given for some time, has claims in its favor. Simple habits and a vegetable diet acts as a corrective. From various publications which have lately appeared, cholelithotomy is the next fad for the enterprising surgeon, which may rival the operation for appendicitis. The liver is to be invaded with the certainty of finding the calculi that are the origin of ills as many as are caused by foreign bodies in the appendix.

COMMUNICATIONS.

THE PRISMATIC PERIMETER.*

JOSEPH E. WILLETTS, M.D.,† PITTSBURG, PA.

The importance of determining the visual acuity of the peripheral portions of the retina is fully appreciated by the oculist. The visual field may be defective with respect to all or any of the senses of form, color or light. As the nature of such defects often constitutes important data upon which to base a diagnosis and prognosis, of the accurate testing of the visual fields should have an important place in the subjective examination of the eye. Peripheral vision may be defective in continuity or in acuity; often there is a defect in both respects at the same time. But besides regular interruptions in the continuity of the field of vision, there may be irregular breaches in continuity, *i. e.*, more or less blind portions surrounded by normal or relatively normal portions of the field, to which the name *Scotomata* has been given. There is scarcely any intra-ocular disease which is not accompanied by changes in the visual field. Thus, in optic atrophy we have a concentric contraction of the form and color fields. In glaucoma the contraction of the field is quite characteristic of the disease. First the inner and then the upper and lower portions of the field begin to contract, and this contraction gradually extends toward the centre of

* Read before the State Medical Society of Pennsylvania, May 20, 1896.

† Late Chemical Assistant to Dr. Knapp, New York Executive Ophthalmic Surgeon to the Eye and Ear Hospital, of Pittsburg, Pa.

the field. In retinitis pigmentosa there is also a contraction of the field, which is most characteristic of the disease. Here we find concentric limitation of the field, which involves all the peripheral portions equally, often leaving comparatively good central vision, even when the disease is well advanced. In detachment of the retina the perimeter aids us not only in determining the extent of the detachment, but also in the prognosis. In the various forms of hemianopsia and toxic amblyopia, due to tobacco and alcohol, the perimeter is valuable; for by it we are enabled to discern a central scotoma for colors, which is pathognomonic of these affections.

Hirschberg believes that a differential diagnosis between tobacco-amblyopia and alcohol-amblyopia can be established by the location and form of the scotoma. In alcohol-amblyopia the scotoma is "peri-central," *i. e.*, it lies about the macula; whereas in the tobacco-amblyopia it is "para-central," being more distinctly oval in shape and extending from the macula to the blind spot. The various perimeters are all one and the same thing—that is, modifications of the same principle. It consists of an arc and chin rest, and compels the patient, as well as the operator, to assume an unnatural, restrained position for a length of time varying according to the intelligence of the patient or the perception of the operator, and gives results which look exceedingly scientific and add greatly to the appearance, if not to the worth of reprints. The patient is seated in front with the chin in the rest provided for it, and, one eye being covered, he is directed to gaze steadfastly at the stationary disc which should be in a direct median line with the eye of the patient; but it is not in this instrument. The top of this projection, which acts as a director, is on a median line with the stationary disc, which seemingly is but a small matter, but in reality is one of material importance. As it is now, the patient is forced to rest the margin of the lower lid against it, which sets up a blepharospasm, causing a constant changing of position and a restriction of the interior field. If the chin-rest is raised, then the antero-posterior axis of the eye is above that of the disc, which adds to the unreliability of the results.

To be scientifically consistent with the laws of physiological optics, the field of vision should only be taken after the error of refraction has been corrected. Just what part high degrees of hypermetropic astigmatism and other forms of ametropia would play in the conjugate focus or deviation of rays, I cannot say, but think it capable of mathematical demonstration. Considering that the field of vision is always taken without the error of refraction being corrected, and considering the fact that it is impossible to take the field of vision with this instrument after the error has been corrected, on account of the rim of the glass interfering with the vision, together with the fact that the result of the examination is modified or dependent on the personal equation of the patient, whose position and surrounding are not such to facilitate quick perception, the practicability of this instrument becomes questionable. What can we expect of this instrument with uninstructed patients, where the operator must rely on the personal equation of the patient, and his own ability, not only to approximate the degree on the unmarked portion of the perimeter, but also to approximate how much of the field of vision is cut off by an unusually high nasal bridge, a prominent brow, or a malar bone? How is this approximation of restricted field from a prominent feature made? Is it computed by figures? Is there a known amount of restriction of the visual field for each mm. of prominence of individual features above normal? No; the result is accepted regardless of personal equation, the physiognomy, or the position of the patient, and an approximate allowance made for the numerous inaccuracies of which the position of the patient is not a minor one by any means, especially in those cases of a neurotic type—cases of hysteria in which we are called upon to take the field of vision, and where the patient does not remain in the proper position. In such cases the forehead may be inclined forward, with the eye close to the projection in a straight line with the stationary disc, thus giving the field a wide scope in one meridian; while in the next meridian the chin will

be thrust forward, and the eye drawn backward, and the inferior field greatly restricted, to say nothing of the patient's inability to control the tendency to look at the moving disc instead of the stationary one, which also materially adds to the unreliability of the results obtained.

Disregarding these trifling objections, it has other disqualifications which practically removes its only advantage, that of chart producing, by which we may keep a record and reproduce it if desired, and I feel free to say that these are about the only cases in which it is used. For office practice the field is taken by having the patient fix his eye on that of the operator, and bringing the finger in from the periphery in the various meridians, and is just as accurate, and just as scientific, and can be accomplished in the time necessary to get the perimeter ready; but there are no means by which the result can be expressed. The perimeter gives a method of expression, but an imperfect one, and in proof of this statement, I ask any one to show me ten fields of vision, any two alike, taken from the same patient, under any condition. This extreme variation of result is dependent on the objections named and also on conditions. The most important essential requisite for the accurate testing of peripheral retinal functions is light; not reflected light, but a certain light stimuli which must be accepted and used in all perimetric examinations, in which the result is to be reported, otherwise the chart reproduced, conveys no meaning, and is valueless; for if the same field be taken by another observer, a different result would be obtained, and if taken by a third observer, still another result would be obtained, dependent not on the operator but the amount of light obtainable in his office and the cleanliness of his discs. Taking into consideration the different theories of the color senses as to whether they be true or not, no color can be recognized in a dark room, and the restricted color field as shown to-day, is not so much dependent, to my mind, on the retina not being able to perceive the various colors, on account of the colors themselves, as it is on the degree of luminosity. A bit of card board of any color run in from the periphery is recognized by the patient, not so much by the action that the individual color plays on the retina, as the rays of light reflected from it. The darker the color, the more rays absorbed, and the restriction of the field for white even, as shown in hysteria, may be dependent on a dirty or mottled peripheral disc, rather than retinal inertia. While the contraction on the nasal side is tacitly understood to be dependent on the physiognomy Fuch says that the anterior border of the sensitive portion of the retina, extends further forward on the nasal side than on the temporal, in comparison as 65° is to 90°. This is not so. Both sides are equal there being no difference in the retina of either side, it being histologically the same, and this is one of the many errors which have grown from the results of the present method of perimetrical observation. To the physiognomy most of the blame can be laid for the contraction of the nasal side, and the balance of the blame to that instrument, based on hypothesis alone, the perimeter, an instrument devised for the exploration of the field of vision, which, instead of endeavoring to enlarge the nasal contraction caused by the physiognomy, further increases it by bringing its objective point inside the point of infinity to 15 in, when all rays that enter the eye must enter as divergent rays, thereby causing a restriction of the whole field to the extent of 0.57′ of the nasal as well as the temporal side. But not satisfied with this, it further constricts the nasal field 6° 38′ by the convergence dependent on the compulsory accomodation for so near a point and adds the 6° 38′ subtracted from the nasal to the temporal field, which constitutes another error. This is easily demonstrated by holding the finger 15 inches from the face and then fixing the eye on a distance (20 feet) beyond it. When the distance between the two fingers will represent the angle, in other words, any instrument that shows a contraction of the normal field of vision for the form, or color sense, is wrong, for no such contraction exists. Granting these objections to be true, which they are, I say without any hesitancy, that the perimeter is not only unscientific and impracticable; that it is not only im-

probable, but impossible, its total being nothing but approximated guess work, its results being not only valueless but meaningless as well.

Recognizing that the unsatisfactory statements of the patient materially influence the result, that there must be an approximate allowance made in each case for the personal equation and for the constantly varying physiognomy, and that the time and inconvenience necessary for a conscientious examination of the visual field are decided objections, I endeavored to construct, or combine a number of prisms or cones, which would transmit or refract rays of light to that part of the retina corresponding to the degrees in the present perimetrical chart. To make the result correspond as nearly as possible to the present accepted ellipsoid, color and form field, as the perimeter gives it to us, it would be necessary to have prisms of different strengths combined in a whole. On this principle I had an octagon ground. Recognizing later that this shape would be expensive and the results inaccurate, I constructed a cone-shaped hexagon, having all prisms of the same strength. Thus, a cone or cone-shaped hexagon with its sides cut at an angle 73° 40′ made of flint glass with an index refraction of 1,584, will throw six lights at the same time on the retina at the angle corresponding to 70° as taken by the perimeter. That this is capable of mathematical demonstration the following formula show, for which I am indebted to Prof. James E. Keeler, of the Allegheny Observatory of that city.

Formula for a Prism in the Position of Minimum Deviation.

Let n = index of refraction
A = angle of prism
d = min. deviation

To find d,—$\sin \frac{1}{2}(A+d) = n \sin \frac{1}{2} A$.

To find A,—$\cot \frac{1}{2} A = \frac{n - \cos \frac{1}{2} d}{\sin \frac{1}{2} d}$

Formula for a Prism when the Incident Ray is Perpendicular to the Second Face of the Prism.

Let n = index of refraction
A = angle of prism
d = deviation

Given A to find d.

$$\sin r = \frac{\sin A}{n}$$
$$r' = A - r$$
$$\sin d = n \sin r'$$

Given d to find A.

$$\sin r' = \frac{\sin d}{n}$$
$$\cot r = \frac{n - \cos r'}{\sin r'}$$
$$A = r' + r$$

Example :—n = 1,584, A = 75o, to find d

log sin A. 9.9849
log n. 0.1998

log sin r . . . . . 9.7851, r = 37° 34′

r′ = 75°—37° 34′ = 37° 26′

log sin r′ 9.7883
log n. 0.1998

log sin d . . . . . 9.9836, d =74° 21′

Example :—n = 1.584, d = 75°, to find A

log sin d 9.9849
log n. 0.1998
sin r′ . . . . . 9.7851, r′ =37° 34′

n = 1.5840
Nat cos r′ . . . . = 0.7926

n— cos r′ = 0.7914,—log 0.7914—9.8984
log sin r′ —9.7851

r = 37° 37′ log cot r —0.1133
A = 37° A34′ + 37° 37′ = 75° 11′

The highest degree prism used in the prismatic perimeter is one of 73° 40′ which under all conditions, regardless of the physiognomy, transmits images to 70 degrees on the retina, not counting the distortion of the image, which is equal to five degrees more, so if a patient see six lights with this combination of prisms after a slight rotation of the hexagon, or without rotation of the cone, it is *prima facie* evidence that not only the field of vision is normal at the angle of 75° for all meridians, but also that the color sense for red is normal at that angle. A row of incandescent lights, green, blue, yellow, or any of the complement colors, can be successively turned on, and the field and color sense for that angle established decisively in an instant. Plates in text-books showing 55° to 60° to be the normal for white of the superior, inferior and temporal portions of the retina are misleading, and certainly are not any more correct than the plates showing restricted color field.

The prismatic perimeter has demonstrated satisfactorily that there is no

restriction of the normal field for any color or any object. The present restriction is not due to the inability of the retina to receive impressions at its periphery, but entirely to outside influence—the physiognomy, and the crude instrument by which the field is taken. All colors are recognizable with the prismatic perimeter at the periphery of the field, as well as inside of the color field, as at present recognized. That it is not so plainly seen at the periphery is partially due to the fact that to deflect an image to the 70° angle on the retina the rays cannot pass through the angle of minimum deviation of the prism and thus transmit a clear image of the object; but instead a distorted one is transmitted to the retina. If it were possible to throw an image which was not distorted on the periphery this would be very distinctively seen. That this is a fact is proven by directing the visual axis to one of the false images on the periphery, which necessarily causes it to fall on the macula. If its distinctness on the periphery were due to the insensibility of the retina, it should be distinctly seen when focused on the macula, which it is not, showing that this indistinctness is due to distortion alone. If the 73° 40′ hexagon, or a cone of the same degree be placed before the patient's eye, the other being covered, and he can see no light, there is a concentric contraction inside of the 70° angle which indicates optic atrophy or retinitis pigmentosa; while in glaucoma, corresponding to the nasal contraction, there will be but three lights, or a broken light with the cone. If one be missing, some localized lesion, and if the color be not recognized, the pathological condition is really understood. The lights are thrown on the retina in the shape of a hexagon, with a band of colored lights connecting each individual light at different degrees of deviation, according to the strength of the prism or of the cone used.

The light can be thrown on the retina in a practical way at successive angles of 70°, 60°, 50°, 40°, 30°, 20° and 10° is demonstrated by the formula given.

The following shows the angles of the prisms required to give the necessary deviation when made from flint glass, with an index refraction of 1,584 :—

Given deviation.*
Angle of prism required.†

*	70°	60°	50°	40°	30°	20°	10°
†	73°40′	69°21′	63°13′	55°8′	44°50′	32°2′	16°49′

The error decreases in ratio to the strength of the prism.

The hexagon has the advantage over the cone because it tells us not only of the presence of a lesion, but also of its extent. For example, in detached retina, after putting on the hexagon, one light is found missing. The hexagon should be slightly rotated until the patient sees the missing light, and the point of its reappearance noted as well as the site of the disappearance of the one following it, which gives us positive evidence of the extent of the detachment for future reference.

As is well known, the objection to the use of high-degree prisms in ocular work has heretofore been the prismatic spectrum. This spectrum, which has been previously an objection, is, in the prismatic perimeter, used to an advantage; for, in the higher degree, it is sufficiently pronounced to be used as a color test, as it has all the necessary colors, and I have demonstrated in the clinic of the Eye and Ear Hospital that the individual colors are recognized by the patient.

It is scarcely necessary to dilate on its efficiency as a confusion test in stimulated blindness. If a patient be made to see six lights, the angle of which may be changed at the will of the operator, he naturally will not know what to expect in subsequent examinations.

The prisms must be accurately ground, all the six faces of the hexagon being exactly alike and of the same angle, so that we may have undisputed facts from which we can definitely express results found for the report of cases. In the higher degree prisms, the rays striking the apex of the prisms are lost, being deflected out of the prisms before they reach the cornea, so that during the examination, when the prism is held close to the eye, the patient sees a semi-opaque circle or diffusion of dispersed and reflected rays making their exit, which, contrary to the natural supposition that it would annoy and confuse the patient, is really a valuable adjunct instead of an objection; for it is these

rays that exclude all other objects, such as furniture, hangings, etc., which have a lesser light stimulus than the objective light used in the examination, thus cutting off many multiple objects that would only tend to detract the patient, much the same as the moving disc on the old perimeter does, and make the practical application of the prismatic perimeter *nil.*

The prisms are cemented to a piece of plain glass and enclosed in a brass tube of a dead black finish, which has been done for the protection of the prism, for convenience of handling, and to overcome the blepharospasm caused by the closeness of the prism to the eye. The prism is set in about an eighth of an inch and the rim of the tube holds the lids open. The tube is marked on the end containing the prism, with degrees similar to the trial frame, so that when it is placed to the patient's eye, with the 90° mark on the tube corresponding to the verticle meridian of the eye, then we know exactly what position the lights are in on the retina, and if one be missing we can tell at once what meridian of the field is affected, and this may be expressed by figures instead of unreliable charts.

The objective light is inside the point of infinity, when the higher degree hexagon is used, which causes an error of 0.57′ which is overcome by placing a convex lens in the other end of the tube, which causes the rays to become parallel and also protects the prism from dust, etc.

The problem that was of paramount importance in the conception and construction of this instrument, was not only the securing of a proper combination of prisms with the proper powers of deviation, but the practical application of the principle. The possibility that a thing might be otherwise is no proof whatever that it is not so. The test of a theory is, first, that it shall not be directly contradicted by any facts, and secondly, that the preponderance of probabilities in its favor shall be sufficiently great. But so long as there remain any negative evidence it remains a theory. That these rays do strike the retina at the angle declared has been proven by mathematical deduction, with no negative results, and consequently it is a produced fact, of practical application, and as such it is presented. The instrument is manufactured by the Wallace Optical Company, of this city.

To recapitulate; the objections to the old perimeter are,

First, the high projection which alters the whole field.

Second, that the objective disc being inside of infinity causes a contraction of the whole field of 0.57′.

Third, that through the compulsory convergence dependent on the accommodation for so near a point there is constituted an error of 21° 21′.

Fourth, restrained position of patient.

Fifth, personal equation of patient.

Sixth, time required for examination.

Seventh, uncertain or unknown light stimuli used, which in itself invalidates the result.

Eighth, the results are of no scientific value, being devoid of meaning.

The advantages of the Prismatic Perimeter are: *First*, a standard light stimuli for all observers.

Second, that the form and color sense can be taken at one time.

Third, that the whole field can be taken in a few minutes.

Fourth, that the results are absolutely reliable and indisputable, being demonstrable mathematically, and independent of the physiognomy.

Fifth, that the findings of any observer can be quickly and accurately recorded in a manner at once intelligent to any one familiar with this method of taking the fields.

Sixth, it does not depend on reflected light of varying intensity.

The Passing of the Ovary.

"The times have changed," the ovary said;
"I am hopelessly out of date.
I have dropped from out the zenith of fame,
I have nothing left but a blasted name,
For Battey is dead, and Keith is dead,
And what has become of Tait?

My place in the alcohol jar is ta'en
By a blind, malicious worm.
It is hard for a lady of parts to be cut
By a mere cedilla under a gut!
But I'm out of the fashion and on the wane,
And you now triumphantly squirm.
So, Appendix, adieu,
It is time I withdrew—
You may hear from me again."

—*Southern Medical Record.*

CURRENT LITERATURE CONDENSED.

Limitations of the Standard of Modern Educational Requirements as Determined by State Examining Boards.

Eighteen years of continuous labor as a teacher in medical colleges, has served to make me familiar with some things concerning medical education which can only be gleaned by experience. Only those who have been thrown face to face with the many issues and problems that this subject presents, can imagine the many difficulties that are continually presenting, and how difficult they are to overcome. The medical profession of America has much to be proud of in its rapid advance in this matter. Within the memory of many here the successful doctor was not graded by a collegiate, or medical education, but rather by his power of adaptability to the masses, without reference to education, or I might say ability at all. Armed with the lancet, purgative, emetic and an anodyne, he was accounted greatest who could bleed, purge, vomit, or put to sleep the quickest.

If the memory of those present can turn back to these crude days, and efforts in medicine, it will not require a great flight of memory to take them back to the days when to procure a diploma from a reputable medical college, was a thing of ease, and of but few days of trouble. No portion of the country either can be exempted in this declaration. The North and East, vied with the West and South, as to how little real medical training was necessary to make a full-fledged doctor or graduate. Times have changed, most woefully changed—for the student. Why a decade ago, nine months, and not full months either, seemed quite sufficient to educate one to the simple task of practicing medicine, at least by some colleges. There was a commercial aspect to medical teaching in those days, born and bred, of opposition and contention. Quantity and not quality was the rule. Even medical men became unscrupulous; the cut-rate system was indulged in, and to such an extent that students were actually inveigled into medical colleges under misapprehension and misrepresentation. At last, however, the reaction came, and medical teachers realized that such conduct was reprehensible, and degraded the honored profession to which they belonged and that the wholesale turning out of illiterate students to practice medicine was a calamity which threatened the health and lives of the people, and a halt was called.

It is suggested that the requirements be "A preliminary education equal to a high-school course, four years medical, collegiate training, and a separate State examination for license after graduation." Every teacher of medicine will bear me out in the assertion that many times the student of two years' attendance in a medical college can outstrip the four-year man with ease to the finish. The country-born lad, who has had the advantage only of a log-cabin education, will often win the honors in his class over his city cousin, who has received a collegiate education. This can be said of all professions and avocations. Who is to judge whether the applicant has an education equal to a high-school course? I suppose this duty would devolve upon the dean of the college, or a committee appointed for this purpose. No reflection is meant when I say that many of us would not prove competent judges. If the requirement said a diploma from a high school, it would be more definite. Even then it must be admitted that sometimes men, who are not proficient, are granted diplomas even by a literary college. Take either suggestion that you please, then I would ask, are we to apply the same rule equally to all States in the Union, and to all sections of the country whether educational facilities are common or not? In plain words, would not the medical profession lose a great deal of most excellent material if we hewed to the line in this requirement?

Instead of a routine of didactic lectures in colleges, with but few clinics, we have now most of the instruction given in a clinical way, with great

[1] Joseph M. Mathews, M. D., in *Cleveland Medical Gazette.*

laboratory work. Too much credit cannot be given to this manner of teaching. But in all candor let us contemplate whether or not the great principles, the positive deductions and the common-sense application of the same, are not sometimes neglected to give place to theoretical problems that are not proven, and much minutiæ. Hard common sense, clinical observation and experience are as necessary features in the practice of medicine as the knowledge of the part that the stapholococcus, or streptococcus play in the production of the germ theory of disease. Let us then, in these examinations by the State Examining Boards, have many plain common sense questions, without embellishment, with things that are not absolutely necessary. In looking over a list of the examination papers used by one of the State Board of Health, a short time ago, I really wondered if all members of said board could answer them sufficiently well to obtain the average, to warrant the issuing of a diploma to them, if they did not possess one. Sure I am that I know many excellent practitioners of medicine, and able surgeons, who would have been stumped by such an examination.

The State Examining Boards must, in order to succeed, have the affiliation and full co-operation of the State boards of health, medical colleges, medical college associations, medical press, medical profession, and we may add the lay press and the people at large, for they are powerful allies or foes.

Street Cars and Public Health.,

The ordinary electric street cars, as seen in most of our cities, are, without doubt, the greatest promoters of disease and ill health. The extremes of weather in our northern climate are such that it is quite impossible to arrange for the accommodation of patients from day to day. One day may be exceedingly hot and the next day may be cold and chilly. When once the open cars are put upon the lines they are usually kept there until cold weather comes on permanently. Many cases of acute bronchitis in infants, youths, and adults have been due to nothing more than exposure from riding in public street cars. The corporations which control these accommodations to the public, and without which suburban villages and the smaller cities would scarcely thrive, have as yet displayed little interest for the protection of passengers against changeable weather. There is no reasonable cause for the various companies not taking measures to protect the people, upon whom they depend for the maintenance of their systems. They have a decisive advantage over the public, for should they withdraw their cars, the public would suffer the inconvenience, and there are very few citizens but who would risk health rather than lose the time that would be consumed in walking back and forth from their homes to their places of business. Not one in a hundred of the passengers are capable of affording carriages, and these are the only ones who could fight the corporations, and in a great many instances the only ones who can afford carriages are financially interested in the corporations.

[2] New York *State Medical Reporter*.

Treatment of Septic Infection in Puerperal Cases.[3]

In my opinion, the best methods of treatment of puerperal septic endometritis is as follows:—

The objects of treatment, when once the septic infection has occurred, are to thoroughly cleanse and to keep clean the infected tissues, to provide free drainage and to support the vitality of the patient.

The uterine cavity is best cleansed by means of the blunt curette, followed by the brush to entangle and remove any shreds loosened by the curette, then a prolonged hot antiseptic douche, using a large quantity of solution. The antiseptic most frequently employed in this connection is bichlorid of mercury. But it must be borne in mind that this salt, in neutral solution, is precipitated as an albuminate when brought in contact with blood or other albuminous material. To prevent impairment of strength by this contact, an acid must be added to the solution, in the proportion of five parts of the acid employed to one of the bichlorid. The antisep-

[3] David J. Evans, M. D., *Montreal Medical Journal*, May, 1896.

tic douche, when the bichlorid is used, must always be followed by plain hot water to prevent absorption of the salt. To prevent the further growth of germs as far as possible, this treatment should be followed by the introduction of a bougie containing a drachm of iodoform, and gentle packing of the uterine cavity with aseptic gauze, to stimulate the uterus to contract and to provide drainage. This gauze must be carried right to the fundus, but if packed too tight will do more harm than good. This treatment, with the exception of curetting, may be repeated in from twenty-four to forty-eight hours, as the severity of the general symptoms may indicate. Lower range of pulse-rate, drop in the temperature, return of the lochia, and evidence of uterine contraction and involution are symptoms of a successful result of such treatment.

This treatment must be persisted in until the temperature and pulse reach normal. I have seen successful results where, for forty-eight hours, the symptoms of improvement were so slight as to make one despair of the result desired.

The administration of saline purgatives favors free drainage of the lymphatics of the peritoneum. Dr. Davis recommends that a copious amount of normal saline solution be given to the patient, either by transfusion, by the mouth, or by copious rectal injections. Strychnia and quinine should be administered in full doses at regular intervals.

The stomach should not be overloaded, but the most nourishing diet possible is indicated. The employment of predigested nutrient enemata supplements the treatment in serious cases. Alcoholic stimulants are valuable in this as in all other septic conditions, though many do not advise their use at the same time as strychnia.

Fevers of the South.[4]

Yellow fever is now a rare visitant in the South; small-pox occurs only in local outbreaks; typhus fever has not been seen by the present generation of physicians; cholera has not been epidemic since 1866. Gradually but surely the great epidemic diseases have been driven from the land. Even malaria has diminished extraordinarily in its extent and in its intensity, particularly above the latitude of Norfolk.

Thus one only of the continued fevers persists, almost in its original vigor. Typhoid fever is to-day in the United States, *the fever*, just as it was when the old New England physicians recognized its recurrence year after year with the fall of the leaves. Of no disease is the history better known; the measures for its prevention are everywhere recognized; the incidence of its occurrence is an unfailing index of the sanitary intelligence of a community. With good drainage, pure water and pure milk, typhoid fever goes the way of typhus and cholera. The greatest sanitary triumphs of the century have been in reducing to a minimum the mortality from this disease in the great centers of population in Europe. The mortuary returns of Washington and of Baltimore, and of many smaller cities, demonstrate that we are culpably negligent in allowing this most easily preventable disease to continue its ravages. I estimate that in the latter city there were during the year 1895 not less than 2,500 cases.

A practitioner of the Nathan Smith type, a man who has the confidence of his patients, will carry through a majority of his typhoid fever patients without a single dose of medicine, not a purge, not a vomit, not even a fever mixture. He is a patient, anxious spectator of a process he cannot arrest, a watchful guardian who will know when to act with promptitude and decision and when to refrain. Would that worthy successors of this good old man (whose article on the typhus fever of New England shows him to have been a true disciple of Sydenham) were more numerous. Some of us insist, and I am one of them, that in hospital practice a cold bath every three hours when the fever rises above a certain point, saves from 8 to 10 per cent. of the cases; while there are others,—*quot homines, tot sententiæ*—who put their trust in purges, or who undertake to disinfect the twenty feet of bowel with drugs whose chief virtue is their harmlessness.

[4] William Osler, M.D., in the *Journal of the American Medical Association*, May 23, 1896.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:

A. L. BENEDICT, A.M., M.D.

SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, AUGUST 22, 1896.

EDITORIAL.

MEDICINES IN DISGUISE.

We are in receipt of samples and circulars calling attention to the value of a certain doctor's periosteal and dentition tablets. Directions for administration and prices are given in full, but we are left in ignorance of the composition of the tablets, save that those so warmly asserted to assure "an easy dentition" and relief from "cerebral irritations, convulsions, etc.," are stated to contain "a small quantity of pure carbonate of lime obtained from the oyster shell." The broad claim is made for the periosteal tablets that "applied on the gum of the affected tooth, letting them dissolve slowly, and swallowing the solution," they will, when used in the first stage of periostitis, "mitigate the suffering and expedite the pointing of the abscess. A tetanic condition of the jaws, caused by too close crowding during the process of eruption of the wisdom teeth, is often observed. In such cases, these tablets have been used with the most positive beneficial results. Often the application of one tablet gives immediate relief."

This is only one of many instances of child-like faith with which manufacturers of secret formulas ask the medical profession their wares. Judging from appearances, the patent medicines which are household gods and which are proclaimed by the religious and secular press, the freely-distributed almanac and

barn and fence-decorations, regularly seek the support of physicians of legitimate practice. Even more impudent are the drug houses which pretend to deal through the medical profession alone and to discountenance direct advertisement to the consumer, but which cater to physicians simply for the sake of getting them to act as unpaid agents of unknown compounds. Some months ago, agents traversed the country urging that iodoform and other staple powder dressings be discarded in favor of a "discovery" whose name—in attempted Latin—appearance and proposed use suggested a mixture of zinc oxid and starch, but whose nature was revealed only by the vague information that the ingredients were of both mineral and vegetable kingdoms. We are disposed to sympathize with the manufacturer who keeps secret the knack with which he combines vehicles in order to secure a stable and palatable mixture and who publishes the proportions of all active ingredients, though we believe that the use of ready-made mixtures is to be deprecated and that the extemporaneous prescribing of one drug at a time is the ideal therapy. But we have no patience with the dealer who attempts to put us off with such general descriptions as that his compound consists of valuable saline laxatives to be given in such a dose, or who subsidizes reputable medical journals to advise the use of secret and expensive modifications of drugs in common use.

Everyone who gives the subject careful consideration must recognize the fact that, while a secret nostrum may be based on a really valuable prescription, it is sold so that its availability must be decided by one ignorant either of sickness or of the nature of the drug or of both. Thus the general tendency of all proprietary medicines is harmful, while their existence is a direct economic insult to the medical profession. We have some degree of tolerance for the man, even if a physician, who indulges in open quackery, who honestly antagonizes the medical profession, and whose advertisements to the public, however misleading and exaggerated, need not deceive any intelligent person. But the man who attempts to market the same kind of secret and proprietary medicines through fawning on the legitimate but weak-minded members of the medical profession and flattering them into prescribing his wares, is not only a rascal, but a sneak. He is like the beggar who spits on our steps while awaiting our charity, or like the noisy rabble which disgraces religion and disturbs the worshippers in churches by untimely discord and then asks alms of the very people whose meditations have been interrupted.

The subject has another aspect. The men who advertise the virtues of their secret compounds to the medical profession *alone*, may be knaves, but they are by no means fools. If one company after another chooses the middle path between out-and-out quackery and the legitimate manufacture of medical supplies, it is because there is money in such a course. The symptoms of "cheek" and of child-like innocence sometimes closely resemble each other, but the prognosis of the latter is unfavorable, while the former, if not too severe, tends to a prosperous outcome. It is well to bear this in mind when a company of shrewd business men invites us to use and recommend a remedy whose nature they will not reveal and assumes to dictate to us in matters of dosage and pharmacology.

The explanation is obvious—these companies are calculating, and calculating correctly, on the presence in the medical profession of a certain proportion of men who either do not know

enough to use standard pharmacopœial remedies or who have not the stamina to resist the blandishments of samples and circulars and the opportunity to get their names into somebody's pamphlet. The fact that such men exist in our ranks imposes even a greater duty on those who have moral courage and backbone. The appeal is frequently made, "Is it not better to prescribe an unknown substance than to let a patient suffer for want of it?" Considering how many patients have been mistreated with drugs, whose names alone were known to the physician, we would answer "No." Almost the only drug of value which has been put on the market as a secret remedy during the last decade is antipyrin. That, even, was susceptible of chemical analysis and really ceased to be a secret remedy, although the exact method of preparation remained unknown and the price was still inordinately high. And, further, it may be said that the only use of antipyrin, in which another coal-tar product could not be substituted with advantage, is as a surgical hemostatic. If the profession had resolutely adhered to the principle of using only substances which were advocated on rational chemical grounds, and had thrown back on manufacturers the responsibility of keeping valuable remedies from patients, instead of weakening and accepting whatever truth and whatever error proprietors of patent medicines chose to impart, the immediate benefits lost would have been slight, the immediate harm done would have been vastly diminished and we should not now be cursed with a flood of secret medicines.

ABSTRACTS.

HYDRO-GALVANISM OF THE URETHRA.*

The instrument for the application of the urethral hydro-galvanism has been devised as means to apply galvanism to parts of the genito-urinary tract without bringing the instrument in actual contact with the parts to be benefited thereby.

The principle is that of an electric bath; the electrified water gravitates in the cavities, which are thereby expanded, so that the whole surface of the cavities is more completely electrified than it could be with, and without possibility of the irritation which might arise from the use of the metal electrode, the instrument being only a vehicle for conveying the electrified fluid.

As the electricity acts differently under different conditions and applications some definitions of terms are given:—

Voltaic electricity (galvanic) of low potential difference and large current intensity; electricity, such as produced by galvanic battery; a current or dynamic electricity as opposed to static electricity.

Hydro-electric, pertaining to, employed in or produced by—the evolution of electricity by means of a battery in which liquids are used, (or by means of steam).

Hydro-galvanic, produced by or consisting of electricity evolved by the action or use of fluids, as hydro-galvanic currents.

Electrolysis is the decomposition or the separation of a chemical compound into its constituent parts of elements by the galvanic current. Each pole has its peculiar action.

Cataphoresis, a factor in electrolysis; can act by itself (and thus is an electric osmosis) a transmission of substances in

*Robert Newman, M.D., New York, before Electro-Therapeutic Association.

solution through porous membranes, under the influence, probably, of electrolysis, but without themselves being decomposed. As an electro-therapeutic agent, cataphoresis is used for the transmission of medicine through the cutaneous or mucous linings into the body of the patient.

Galvano-puncture or electro-puncture is an electrolysis by needles, the current increased to a grade of destruction of tissues.

Galvano-cautery is the short circuit of galvanism to heat a platinum wire or burner. It is used as an ecraseur, knife, cautery, or simply as a rubefacient.

The theory is to electrify the fluid used by the continuation of the current through the water to the platinum wire of the instrument, the same as in an electric bath. The theory as a practical application is well expressed by Newman Lawrence. "All that is necessary, to insure, that the water or other fluid is electrified when it reaches the patient, is to have the nozzle so constructed that the jet or jets of water form *continuous streams* for a reasonable distance after they leave the metal conductor within the nozzle." To electrify the fluid by the continuation of the current through the water to the platinum of the instrument, the same as in an electric bath.

The instrument is a conical tube of hard rubber, which can be inserted into the urethra from one to two inches; a soft rubber ring pushed against the meatus prevents leakage. A stop-cock regulates the supply of the fluid, the top of which is used as one binding post to attach the tip of one rheophore. The other end of the tube is used for the attachment of the rubber tube for the introduction of the fluid. The tube is lined with a platinum wire for the conduction of the electricity.

The fluid used may be simple salt water, bicarbonate of soda, or any other medication as the symptoms may indicate. As a reservoir for this fluid the writer uses a glass cylinder, so as to ascertain by sight the quantity of the fluid used. The lowest part of this cylinder and a portion of the instrument are connected by a rubber tube for the transmission of the fluid through the instrument. The glass reservoir is placed at such a height that the fluid will, by its own gravity, enter the parts to be electrified without any undue pressure.

For the indifferent pole use either a pad placed on any part of the body or a sponge electrode in the hand—the latter is preferable. The end of the instrument is slightly lubricated and is introduced into the meatus so far that the conical parts fill up the orifice.

The instrument has been made conical in order that the orifice may be filled, as the sizes of the meatus and calibre of the urethras differ in different people. When the conical tube has been inserted as far as intended, a rubber ring is pressed against the outside of the meatus to prevent any leakage of the fluid. One hand only is needed to keep the instrument in place, while the other one is used to turn the stopcock (which allows and controls the afflux of the fluid to the parts) and also to regulate the current strength of the battery.

The galvanic current will be used in strength from 5 to 20 M. A., according to effects desired.

The stopcock should be so regulated as to keep the parts well filled with the electrified fluid, or even dilated so that it enters all the rugæ of the canal.

If it is wished to change the electrified fluid the instrument may be withdrawn, slightly, to allow an escape of the solution, and then the stopcock may be turned on to give a fresh supply.

The average time for a seance will be about ten minutes.

Before finishing the treatment the current of the battery should be slowly reduced to zero.

This instrument can be used in electrolysis just as well as for general galvanization. The most important part will be the stimulating of the mucous lining, healing of ulcerations, absorption of pathological conditions, restoring general debility, and improving chronic inflammations. If the fluid be properly medicated, cataphoresis or electrolysis may be applied.

The general surgical practice in urethral strictures consists in:

(1)—Gradual dilatation, which cures in only a small percentage of cases. As a rule it enlarges like the stretching of a rubber band, which contracts again after

the stretching is left off. In suitable cases it is a rational method and will not injure if used with care and skill, but in most cases it does not cure.

(2)—Divulsion may also cure in some cases, but in the majority it is dangerous; caused by rupture, traumatism, and may produce death. At the present time it is abandoned by most surgeons.

(3)—Urethrotomy is the favorite operation of to-day, and in the opinion of many, nevertheless, the most irrational method. If the cut made heals by first intention the calibre of the urethra is not enlarged; if the gap is kept apart by stretching cicatrices *must* form, which are nothing else than strictures of a worse character.

In opposition to this old method the writer has treated urethral strictures by electrolysis for twenty-nine years, has compiled and reported in 1893—1755 successful cases by different operators, all of whom vouch for the correctness of their statistics. The writer's statistics have been examined during a whole year, by a committee, who reported the statistics correct.

However, he cannot endorse other methods of so-called electrolysis, like "Forte's linear electrolysis," which is an operation consisting partly in forcible divulsion with a small dose of galvanopuncture, both objectionable features; nor the instrument of "Gautier," which principle has been abandoned by the writer more than twenty-four years ago.

The hydro-galvanic instrument may be used in tortuous urethral strictures of small calibre, in which it is difficult to pass a filiform guide and where the urethra is very sensitive, in order to dilate, to lessen the tortuosity, allay the irritability, and heal up any sore or bleeding point, and thus prepare the case for the regular electrolytic treatment. This is as a rule not necessary for the expert, but some operators may find the hydro-galvanism an aid in beginning the treatment, particularly when they find difficulty in introducing an electrode, or even a filiform guide.

Diseases of the seminal vesicles consist mostly in inflammations, sometimes being one of the causes of impotence, and also connecting with the prostatitis.

The hydro-galvanism has been easily used in these cases with marked benefit, and has cured several cases, in which other methods only partly allayed the severe symptoms. If inflammation is present the introduction of instruments is generally very painful, and often causes derangements of the bladder. If the hydro-electric galvanism is, and undoubtedly does, pacify these parts, it will facilitate the treatment afterwards.

In genito-urinary surgery we are advised to keep the parts at rest, which is good treatment.

It may be a surprise to many that a recent publication teaches that the majority of sexual derangements in the male are caused by pathological processes in or about the seminal vessels, and that it takes extraordinary skill and long experience to make a correct diagnosis.

More plausible and rational methods for diagnosis and treatment of chronic inflammation of the seminal vesicles are stated by H. Feleki. For diagnosis he uses the "three glass test" with digital examination, and the treatment consists in massage, for which he has devised an instrument, for this purpose, as being less disagreeable to both physician and patient, and believes that results are more quickly obtained by its use than the finger massage.

Diseases of the prostate consist mostly of inflammations and hypertrophies—what has been said about inflammation of the seminal vesicles may also be applied to prostatitis.

In hypertrophy of the prostate the surgeon goes from one extreme to the other. Formerly the advice was given to use the catheter always, and wait till death comes, as nothing else can be done. Recently enterprising surgeons have practised castration and ligation of the vas deferens. Dr. Mansell Moullin reports twelve cases of orchotomy of which two died after the operation, two died six months after, and two suffered from traumatic delirium. Dr. Moullin thinks that perhaps unilateral orchotomy or even resection of the vas deferens may be followed by good results. Lallemand's method with his "Cache caustique" never became popular, notwithstanding it appeared very rational.

The passing of instruments through inflamed parts is generally very painful, and often causes derangements of the

bladder. If the hydro-galvanic application will, and undoubtedly does pacify these parts,it will facilitate the treatment afterwards of other applications.

The failure to abort urethritis has been due principally to the fact that the inflammation has caused such an irritable state and pain, which makes it impossible to introduce an instrument, syringe or any medication. The important part is to make use of a certain stage in which the inflammation has assumed such a degree of irritability that the instrument under consideration can be used. This or a modification of it can be used with more ease than any other instrument. Simple water may be used with a weak current of five milliamperes and according to circumstances salt water or even any other medication indicated. Electrolysis given by a metallic electrode, or bulb, is apt to create more inflammation and possibly a degree of cauterization. The hydro-electric galvanism is milder and is better to abort the urethritis and even arrest inflammation.

Chronic urethritis and all pathologic discharges will be more safely cured by this method than by any other which dilates the calibre of the urethra and puts the mucous lining on a stretch, cleanses and washes all parts alike.

The electric current is equally divided in every part of its course, the milder application of electricity will be better tolerated by the patient and the curative process takes place which will not be accomplished by direct applications. It may be objected to that by an introduction of an instrument of two inches, the deeper portion of the urethra may not be electrified. By practical observation however, it has been found that any part of the urethra can be electrified and if the instrument be rightly handled the fluid will penetrate any depth of that organ. If any doubt arises we have two means to make a sure thing still more certain. First is to hang the reservoir containing the fluid higher, in order to increase the pressure from above; experience has shown that under such circumstances the fluid will even enter and fill up the bladder. The other is to have the instrument made longer. It has been found from experience, however, that the latter is not necessary.

As a subdivision of chronic urethritis may be mentioned the urethritis of the deep urethra in which generally the prostate and and even the neck of the bladder is involved. Celebrated specialists have been in the habit of treating such patients with injections of nitrate of silver, often so strong as to drive patients mad and the case has been made worse. It stands to reason that such severe measures are uncalled for and cannot cure, as the solution will diffuse itself all over alike diseased as normal tissue. A better treatment is the use of solid medications to the affected parts only, either by brush, ointment or prostatic bougies. An urethroscope may be used in order to have an ocular inspection, which will enable the operator to apply the remedies *in situ*.

The passage of instruments over inflamed surfaces of the mucous lining is often too painful and the patient will not endure the introduction of instruments or local medication. Such cases have been particularly benefited by the application of the hydro-galvanization—in such manner, that the patients considered themselves cured. In some of these cases the inflammation is so great that the disease will be carried into the bladder and diseases of the bladder have been cured by hydro-galvanization in different ways of application—just as well in males as in females. A longer instrument is however desirable which can be introduced into the bladder, which has been filled with four to six ounces of either plain water or a medicated solution. Then the catheter is placed inside the bladder in the water which indirectly galvanizes the whole viscus.

Excoriations and ulcerations, particularly the latter, are very hard to cure in the urethra by ordinary means. Hydro-electro galvanism will breach over the first part of the treatment in which the irritability of the parts prevents the application with direct electricity. After a few seances with this method, treatment of indirect electricity may be used.

The solution used is in many cases plain water, but salt water may be or any other medication as indicated.

Conclusions:

1—One proposition is that the present ways of genito-urinary surgery need reformation.

(*a*) As they are too severe and painful.

(*b*) The failures are in too large a percentage comparatively with cures.

(*c*) Some mutilations, as cures, appear barbarous.

(*d*) Some measures generally used are based on erroneous theories.

2—Electrolysis in the treatment of urethral strictures has proved a success in a practice of thirty years, after patients, methods, statistics and documentary evidence have been examined by an impartial committee.

3—Hydro-electric methods are nothing else than the electric bath localized to a certain part of the body, the current transmitted by pure or medicated water electrified.

4—The instrument devised by the writer is introduced for what it is worth and for the good it has done, and solely for that; nothing more is claimed.

5—The hydro-galvanism by this instrument will not replace the direct electric current.

7—The hydro-galvanism in genito-urinary surgery wrongly applied by the tyro in electricity may do harm, but scientifically conducted is useful, and in many cases paves the way for other treatment or other applications of electricity.

PERISCOPE.

Dr. I. N. Love having found it incumbent on him to sever his connection with the Marion-Sims College of Medicine, at St. Louis, the members of the faculty of that institution have issued resolutions showing their appreciation of his past services, and extending to him their hope that in all his future connections he will find both pleasure and profit.

The disinfectant properties of coffee have recently been demonstrated by Russian bacteriologists. Watery infusions of the roasted article destroy life in cholera and typhoid fever bacilli, the former in a few hours and the latter after a somewhat longer time. The germicidal power of the bean is limited, and the active principle is not a constituent of the natural product but develops during the process of roasting.

At a recent meeting of the Faculty of the Kentucky School of Medicine, the following appointments were made: Dr. Louis Frank, Lecturer on Clinical and Operative Gynecology; Dr. Henry E. Tuley, Lecturer on Obstetrics; Dr. Carl Weidner, Lecturer on Physiology; Dr. W. Ed. Grant, Lecturer on Anatomy; Dr. Ewing Marshall, Lecturer on Physical Diagnosis; Dr. T. C. Evans, Lecturer on Ophthalmology, Otology, and Laryngology.

The date of the meeting of the Mississippi Valley Medical Association has been changed to September 15th, 16th, 17th, and 18th, in order to permit the members and their families to take the opportunity accorded by this change to make a pleasant tour through the Yellowstone Park. It is desirable that there be a party of 100 or more, in order to obtain the benefit of the special train service in both directions. It is urged that all members who desire to join the party should send their names to Dr. C. A. Wheaton, Chairman of the Committee of Arrangements, St. Paul, at as early a date as possible. If anyone desires to read a paper before the meeting, send the title at once to Hanau W. Loeb, St. Louis, Missouri.

The sixteenth annual meeting of the Lehigh Valley Medical Association was held August 6th at Wilkesbarre, Pa. The retiring President, Dr. G. L. Romine, of Lambertville, N. J., made an address on "Dietetics in Health." The annual address was delivered by Dr. George M. Gould, of this city. His subject was "Some Curiosities of Medical and Surgical Practice." The Association comprises the Eastern counties of Pennsylvania, and the meeting was largely attended. Dr. J. R. Bucher, of Lebanon, was elected President.

"Hard times" is the almost universal cry of the day, and no class is more seriously affected than the physician, says the *Alkaloidal Clinic*. They are employed from no special desire, but because the patient must have them, and then, in many cases, the fee is at best only grudgingly paid. This is particularly so just now; but it is noticeable that those physicians who dispense their own medicines have an advantage over the prescribing doctor. The dispensing physician has the advantage because money need not necessarily be saved to pay for the prescription, and if he is careful his fee can be collected. Sometimes it is small, but always better than nothing; and, besides, the patient associates his recovery with the physician and not with the prescription on file at the drug store. He therefore returns for further consultation, advises his friends to see "his doctor," and all come

again with big and little ailments, so that the dispensing physician is usually fairly busy, while his prescribing competitor may be doing nothing.

The ninth annual meeting of the American Association of Obstetricians and Gynecologists will be held at Richmond, Virginia, September 22, 23, and 24, 1896. Among the papers promised are:

Principles and progress in gynecology. President's address. Joseph Price, Philadelphia.

Treatment of posterior presentation of the vertex, E. P. Bernardy, Philadelphia.

Albuminuria of pregnancy, A. Fr. Eklund, Stockholm.

Obstruction of the bowels following abdominal section, George S. Peck, Youngstown.

Memorial of Dr. Hiram Corson, Traill Green, Easton.

Correspondence is pending concerning additional papers. All titles must be offered before August 25th, when the permanent program goes to press.

Dr. George Ben Johnston, 407 East Grace Street, Richmond, Virginia, is chairman of the committee of arrangements, who should be addressed in regard to hotel accommodations and railway fares.

The next great advance in anesthesia will probably be in the line of an agent which will be capable of producing insensibility to pain without destruction of consciousness. Sir Benjamin Richardson has recently been investigating and experimenting, but is not yet able to see just what form this advance will take. He objects to all the anesthetics containing chlorine, which he thinks has always been the source of danger in chloroform. To a certain extent methylic ether will produce insensibility to pain with a retaining of consciousness. It has the curious and most desirable faculty of destroying sensibility before it destroys consciousness, and recovery from it is exceedingly rapid. It may also, says Sir Benjamin Richardson, be considered the safest of anesthetics. Unfortunately it is a gas and is troublesome to administer. He thinks, however, that we may look hopefully for a method in which, by means of a single agent, we shall be able at will to suspend common sensation alone or to exalt the process into suspension of consciousness. When this object is attained with safety and facility the science of anesthesia may be considered as perfected.

The chronic constipation of infants who are fed artificially is commonly due to a deficiency of fat in the food, says Emmett Holt, in *Pediatrics*. By far the largest single ingredient in the stools of the healthy infant is fat, and this, he argues, is evidence that the food of an infant should contain more fat than is required for nutrition, the use of the excess being to keep the bowels in action. Human milk contains a larger percentage of fat than cow's milk, and when the latter is given diluted the disproportion in the percentage of milk is still further increased. By raising the percentage of fat in artificial food to four or five per cent., Holt states that constipation will be rendered a rare occurrence. Neither cane nor milk sugar has much, if any, effect in preventing constipation, while malted foods have a certain influence, due, probably, to the laxative action of the maltose. Yale points out that gentle massage of the abdomen relieves constipation in some cases; the massage is made along the course of the large intestine from the cecum to the sigmoid. In cases in which the constipation is associated with large, hard stools it has been found very effectual.

The use of antiseptics as preservatives in beverages is growing, and many adulterations have been tolerated under that pretext. An article in the *British Medical Journal* on this subject says: A decision given by Mr. de Rutzen, recently reported, is of considerable importance, owing to the influence it must inevitably have on the administration of the Food and Drugs act. It was shown that a British wine contained 26.6 grains per gallon of salicylic acid. It was stated in defense that the drug was used as a preservative, and in a quantity so small that it could not be injurious to health. Evidence to the effect that even in small doses the drug might be injurious was given. The magistrate, however, accepted the evidence to the contrary effect, and held that the addition was not injurious to health, and seemed to imply that such addition, if made in quantities designed merely to obtain an antiseptic action, and not to increase bulk or conceal inferior quality, would prevent conviction under the Act. We believe that Dr. Corfield, in saying that the long-continued use of small doses of this powerful drug may be injurious to health, has on his side the support of medical experience and opinion. The decision is greatly to be regretted in the interests of public health, more especially as it offers a new excuse to vendors who wish to add various drugs to their foods and beverages "for antiseptic purposes."

That the soft rubber sound is proving an invaluable aid to and in gastric diagnosis, is the opinion of a writer in *Medicine*. He says that in 1875 Leube advised the use of a stiff sound as a means of diagnosis of the position of the greater curvature of the stomach. The bulbous extremity of such a sound passed into the stomach could be palpated, and in this way the position of the lowest point of the stomach determined. Leube himself, however, gave up this as a means of diagnosis, finding that where aught could be learned by this method other methods sufficed, and where it might be of value (as, for instance, in patients with thick abdominal walls) it frequently failed. Boas (*Centralblatt fur Innere*

Medicin), in making investigations of the stomach by means of a tube with a revolving point, quite similar to the gyromele of Dr. Turck, found that he could frequently palpate the soft rubber sound even when it was quiet. He examined thirty cases of different kinds, and found that in twenty-five he could palpate the sound with the greatest distinctness as it lay against the greater curvature of the stomach. He therefore believes the soft rubber sound is a valuable aid to the diagnosis of gastric dilatation and gastroptosis. The examination is best made with the stomach empty or only partially filled, and with the patient recumbent. Filling the stomach with water, or having the patient stand erect, causes the greater curvature to descend several centimeters. Incidentally the author takes occasion to state that the method of gastrodiaphany is of doubtful value. He also believes in the possibility of palpating the sound that has been introduced into the rectum and colon.

The children of syphilitic parents very frequently show manifestations of a disease which is almost universally called "inherited syphilis," according to Dr. R. W. Parker, in Charlotte *Medical Journal*.

In a large proportion of the cases this inherited disease is not syphilis at all, in that the disease is non-contagious, and would be better named "inherited from syphilis."

This inherited disease is true syphilis only if it conforms to the ordinary tests which pertain to contact syphilis, and prove to be infectious and contagious.

The children of syphilitic parents occasionally inherit syphilis.

The mother suckling a child with such a disease may be infected by it.

A healthy wet-nurse and other persons brought into contact with such a child are even more liable to be infected by it than the mother.

Lymph taken from such a child, even although apparently well at the time, will probably, or possibly, invaccinate syphilis.

In reply to the question, Can a healthy woman give birth to a syphilitic child? the answer must be No.

Many women give birth to children who suffer from what is called "inherited syphilis" without themselves appearing to be infected. The explanation is obvious; this "inherited syphilis" is not syphilis in the true sense, and the mother's so-called *escape* depends on this fact.

There is no recent clinical evidence which fully realizes Colles' teaching, viz., a mother suckling her own syphilitic infant and escaping an infection to which a healthy wet-nurse suckling the same infant and other members of her family, who have merely handled this infant, have succumbed, the latter facts being essential, if only to establish the contagiousness of the infant's disease in any and every given case asserted to be "inherited syphilis."

The fact that ecchymoses may occur from natural causes without any violence has considerable interest from a legal point of view. The *Medical Press and Circular*, discussing the matter says: It is now a well-known fact that more or less considerable extravasations of blood may take place beneath the skin or of the mucosa, or on to the surface of the internal viscera, from purely physiological causes, giving rise, however, to appearances which might easily be mistaken for the results of violence in some form or another. The possibly natural origin of such ecchymoses seems only to have been recognized within the last decade or two, and this fact suggests some uncomfortable thoughts concerning probable injustice to accused persons in the past. When a certain French medico-legal authority first called attention to petechial ecchymoses on the surfaces of the lungs, it was for the purpose of promulgating the view that they afforded evidence of death from suffocation in one or other of its forms. This has since been proved not to be the case, for they have been met with in connection with the action of particular poisons, particularly those belonging to the benzine series, as well as after death from burns, etc. Although these extravasations thus lose the diagnostic value which had been attributed to them, the subject is one well worthy of attention in order that full light may be thrown upon the mechanism of their production. For instance, they are not unlikely to occur in the insane, and in this event their presence on the skin would not unnaturally give rise to unfounded suspicions of violence at the hands of the attendants. In a paper dealing with this subject at a recent meeting of the Royal Medical and Chirurgical Society, Dr. Lediard laid particular stress upon the possibility of such ecchymoses on the mucous membrane of the vulva and vagina leading to the presumption of rape. Their position in the body, their delicacy of structure, and their vascularity render this portion of the female anatomy peculiarly liable to exhibit punctiform ecchymoses in virtue of the same causes that determine their appearance elsewhere. Mr. Hutchinson quoted a striking instance of the production of extensive ecchymoses in an elderly gentleman as the result of an attack of whooping-cough contracted from his grandchild. As any medical man is liable to be called upon to discharge the delicate and responsible functions of medical assessor in criminal cases, it is highly desirable that a knowledge of this curious phenomenon should be widely disseminated, for it is not difficult to imagine various circumstances in which these ecchymoses would probably be ascribed to violence or asphyxia, instead of to their real cause, whatever that might be in the particular case.

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2060. SATURDAY, AUGUST 29, 1896. VOL. LXXV—No. 9

ORIGINAL ARTICLES.

THE PURELY PHYSICAL EXAMINATION OF THE ALIMENTARY ORGANS.*

A. L. BENEDICT, A.M., M.D.,† BUFFALO, N. Y.

In choosing this topic for discussion, I do not wish to be understood as disparaging the chemical examination of the stomach contents. Chemical tests reveal the present capabilities of an organ; physical exploration enables us to judge of its past and future.

As a matter of routine, it is well to expose freely the surface of the body from the nipples at least to the umbilicus, and lower if there exists any suspicion of intestinal disease or involvement of the vermiform appendix. The starched shirt of men, the corsets and numerous waist-bands of women, are obstacles to a careful examination.

I. INSPECTION.

Inspection affords an idea of the general nutrition, of the tone of the abdominal walls, of the presence or absence of jaundice and ascites. If the veins are prominent, we may suspect hepatic cirrhosis or some other interference with the return circulation. We may be able to determine whether nutrition has been previously influenced by rhachitis or pregnancy, the former leaving traces in the expanded thorax, misshapen sternum and cartilages and puffy abdomen; the latter in the pigmentation of the linea alba and dermal striæ. The constriction of corsets may be seen, an objective proof of tight lacing, which vice no woman will acknowledge. Very occasionally we may see the outline of the viscera, especially if the abdominal wall is flabby and there is a hypertrophy or tumorous enlargement. In advanced cardiac disease with regurgitation through the tricuspid valve, the ventricular systole is communicated directly to the incoming venous blood and the pulse is sometimes seen or felt in the throbbing of a congested liver. An analogous pulse is sometimes noted in the spleen in well-marked aortic regurgitation.

II. PALPATION.

Palpation of the normal abdomen yields, for the most part, negative results. If the liver is enlarged, we may feel its firm mass below the costal arch,

*Read before Ontario County Medical Society.

†Lecturer on Digestive Diseases, Dental Department, University of Buffalo.

and the fingers may be made to jump off its lower margin into the softer tissues beneath. The spleen must be enormously enlarged to be palpable. It is seldom so for more than a short time, except in either chronic malarial enlargement, splenic leucocythemia and cancer.

The soft alimentary canal yields little to palpation unless there be extreme gaseous or fecal distention of one part in contrast with collapse of adjacent parts or some kind of induration. Induration usually means tumor, and in most instances, cancer. A fibroid thickening of the pylorus may, however, simulate cancer, as pointed out by Virchow and Ewald. I once found in the great omentum of a woman who died of cancer of the cervix uteri, a disc-shaped metastatic cancer as large as a dollar and half an inch thick. This could easily have been felt through a thin abdominal wall. Fecal masses are apt to be mistaken for tumors, and it is well, after the supposed discovery of any tumor, to empty the bowels by a cathartic or an enema, or both, and then verify or disprove the tentative diagnosis. Fecal masses should be thought of, not merely as obstacles to the examination of the abdomen, but as conditions demanding investigation on their own account. Even a vaginal examination may be desirable simply for the sake of throwing light on the condition of the rectum. With our vast array of cathartic drugs and mechanical means of stimulating the bowels, some acting on the secretions of the small intestine, some on the muscular coats, some particularly on the large intestine, some directly on the rectum, constipation is too broad a term to be used as a practical basis for therapeutics. We must know where and for what reason the fecal lodgment has occurred.

Palpation of the vermiform appendix has been shown to be feasible by Edebohls. It is not very difficult in a person with thin abdominal walls. The patient is placed on the back with the hips flexed so as to relax the abdominal muscles. Standing on the left of the patient, the physician feels for the outer border of the right rectus muscle, sinking the fingers deep against the posterior wall of the abdomen, at the level of McBurney's point, that is, half way between the umbilicus and the anterior superior spine of the ilium. The appendix is followed upward, feeling like a piece of tape under the finger when normal. When inflamed, it may feel like a pencil or pipe-stem.

In a case of chronic inflammation of the appendix which I saw in February, 1894, there was a lump as large as the terminal phalanx of the thumb. The patient, an Italian, complained of "muchy dolore" which was at its height about six weeks previously. Operation was performed February 21st by Dr. Herman Mynter and myself. The appendix was kinked on itself and bound together by adhesions which contained granular masses suggesting tubercles. The appendix itself, when dissected away, was hard but not particularly enlarged. No bacilli were found. Recovery was complete. An appendix so plainly palpable as this is decidedly uncommon.

Deep palpation of the cecum and ilium has been recommended to obtain gurgling as a diagnostic sign in typhoid fever. Prof. William Pepper, of the University of Pennsylvania, deserves commendation for the manner in which he has condemned this procedure as unnecessary for diagnosis, while it menaces the integrity of the bowel.

Both percussion and palpation enable us to locate a fecal mass in the sigmoid flexure, a place of retreat for feces denied exit either by destructive lesion of the rectum or by contraction of the sphincters to prevent a passage over inflamed piles, fissures and the like, or because the individual, from laziness or false modesty, postpones the movement which nature demands.

III. PERCUSSION.

Percussion is chiefly of value in determining the size and shape of organs, and, as has been stated in regard to the sigmoid flexure, in deciding whether the alimentary canal is distended with solid matter or gas.

On heavy percussion, the liver should be detected at the level of the fourth rib, where the nipple is usually but not always located. Flatness on light percussion should begin at the sixth rib in the nipple line and extend to the costal

arch. Quite frequently, the intestine will crowd up under the border of the ribs, so as to diminish the area of liver dullness. Thus, the diagnosis of hepatic cirrhosis with contraction should not be made from a single examination, and especially should an error be suspected, if there is flatulent distention of the intestine. In one patient in whom, from other symptoms, there was good reason to anticipate hepatic cirrhosis, five or six examinations on different dates were confirmatory of the small size of the liver, but the next examination showed that the diminution of the area of dullness had been due to distention of the bowel. It is probable, however, that cirrhosis really exists in this case in spite of the normal size of the liver.

In hydatid cyst, with loose daughter cysts enclosed, percussion develops what is known as the hydatid thrill or fremitus. This is a miniature ballottement, the blow driving the daughter cysts away from the parent wall, while the plexímeter finger feels the impact of their return. It is rather difficult to state exactly what the area of the stomach should be. It varies greatly within normal limits, according to the time after eating and the amount of gas produced during digestion.

Usually, in a stomach distended as much as is possible without spontaneous relief of pressure through the œsophagus, the highest and extreme left points coincide, falling on the sixth or seventh rib and as far to the left as the thickness of the thoracic wall will allow. From this point there is a sag downward and to the right. The stomach should not pass more than one-fourth inch to the right of the median line, nor should it descend to within an inch or an inch and a half of the umbilicus.

I should like to call attention to a fact to which many text-books do not allude; namely, that the greater curvature of the stomach, as mapped out by percussion, is in most instances not a simple convexity, there being usually a slight concavity in the middle of the convex curve, marking a tendency to the division of the stomach into two digestive compartments.

The general tympany of the paralyzed and distended bowel of peritonitis and typhoid fever is approximated in a quite common clinical type of intestinal indigestion, occurring particularly in hard-working women between the ages of thirty and forty-five, who eat too little nourishing food and drink too much strong tea, which not only interferes with gastric digestion, but seems to cause constipation by its astringent action. The tympany indicates a state of fermentation and putrefaction, due to the entrance into the intestine of imperfectly-digested chyme and to the length of time occupied by the mass in traversing the intestine.

The arch of the colon can usually be mapped out by percussion on account of the difference between its resonance and that of other parts of the alimentary canal. The colon note is somewhat lower than that of the small intestine and it is usually just about a semitone higher than that of the stomach. These facts are in uniformity with the general acoustic law that the pitch increases as the calibre of the resonant body decreases.

Percussion of the normal spleen is not very satisfactory. Its dulness is ordinarily included between the upper border of the ninth and the lower border of the eleventh rib and between the mid-axillary line and a parallel line an inch and a half to the left of the row of spinous processes. The well-known normal variations in size and the occasional overlapping of emphysematous lung or distended stomach render it impossible to make definite statements as to the size of the spleen. Sometimes percussion fails utterly to reveal its presence. Any moderate enlargement such as is found in acute infectious diseases in the back pressure of hepatic cirrhosis and the like is readily demonstrable by percussion, while in the enormous enlargements which are palpable, percussion is unnecessary.

Percussion and palpation are of great value in locating abdominal tumors and in determining the presence of fluid whether free or encysted. It is so difficult, without going into the details of individual cases, to discuss this subject that I shall allude only to a few points. The smallest amount of peritoneal fluid that can be demonstrated is about a pint, often a quart will be overlooked. Even free fluid does not always flow readily

from one part of the abdomen to another, so that a change in the position of the patient may not be immediately followed by an alteration in the relations of dulness and tympany. The transmitted wave of fluid—a sign that may be considered under the head of either percussion or palpation—must be distinguished from the fluctuation of fat in the abdominal wall. Some physicians claim to be able to distinguish a difference between the impact of these two fluctuations. Without questioning the truth of this statement, I must frankly admit my own inability to make the distinction except by pressing the edge of the hand or some similar object against the front of the abdominal wall in order to prevent the transmission of the fat wave. With such a damper firmly applied, the persistence of the impulse in the flank may be considered to be due to fluid.

IV. SUCCUSSION.

A similar wave on a small scale is produced by succussion of the dilated stomach and as a normal stomach has too much tonicity to permit a visible or palpable fluctuation, this sign is of diagnostic value in cases of suspected dilatation.

V. AUSCULTATORY PERCUSSION.

This means of physical diagnosis, though long known to the profession, has never become popular and both teachers and clinicians have neglected it. In one sense, ordinary percussion is auscultatory, since we listen for the sound elicited by the finger tap, though the careful physician ought to depend also on the thrill communicated to the plexi-meter finger and to be able to obtain much information from a perfectly silent percussion. Auscultatory percussion, so-called, reinforces the ear with a stethoscope; it bears the same relation to ordinary percussion that stethoscopic auscultation in a case of asthma bears to the mere listening for wheezing. It is not necessary to have any peculiar form of stethoscope; any good instrument will suffice. I use a common stethoscope with flexible rubber tubes ending in hard rubber ear-pieces. These flexible substitutes for the woven and metallic conductors are of advantage merely in making the instrument more portable. The end of the stethoscope is placed over the most superficial portion of the organ to be mapped out. Percussion is performed with the finger tip or a pencil end, directly on the skin. No assistant is needed when the percussion is over the same organ upon which the stethoscope rests. The sound conveyed to the ear has a peculiar sharp quality, whereas a fraction of an inch beyond, a dull sound is elicited. It might be supposed that the intervention of a rib would cause confusion on account of the superior conductivity of bone. This, however, is not the case for the sound seems quite independent of any modification by the body-wall.

It is possible in many cases to map out the beginning of the duodenum, which from its continuity with the stomach has practically the same resonance. So far as the stomach and the right lobe of the liver are concerned, the results of auscultatory percussion are about the same as for ordinary percussion, though perhaps a little more decisive. Auscultatory percussion has the advantage of enabling us, in almost every instance, to map out the lower margin of the liver whether the intestine is distended with gas or not. Personally, I am not able to map out the left lobe of the liver by ordinary percussion, although, in many cases, it is palpable. By auscultatory percussion, however, I believe it is possible to outline the entire liver in most cases. This qualification must be made, however, that even auscultatory percussion does not completely reveal the size of the liver nor of any other organ, but only of that portion nearly or quite in contact with the body-wall. This is all that is necessary for practical purposes; indeed the actual size and shape of organs is comparatively unimportant except to the pathologist and the operator. In auscultatory percussion, we almost lose the musical quality of the note elicited, which is so important in ordinary percussion. The ear must be trained, however, to an acute appreciation of the little shock which is carried through the stethoscope so long as the blow falls upon the area of contact with the body-wall.

VI. SIMPLE AUSCULTATION.

This means of diagnosis, so valuable

in the investigation of the lungs and heart, is not so important when the digestive organs are concerned, since the latter are traversed only by slowly and irregularly-moving fluids. By auscultation, however, we can gain some idea of the force of peristalsis and the stomach can be heard emptying itself, little by little, through the pylorus; but, as a practical method of determining the delay of chyme in the stomach, auscultation fails on account of its tediousness. If the patient drinks while the stethoscope is applied over the stomach, a squirting sound announces the arrival of fluid in the stomach. Sometimes a regurgitation is also heard, indicating a relaxation of the cardia, but, after all, these phenomena are not of much practical importance.

VII. THE COMBINED METHOD.

In borrowing this term from gynecology, I refer to any physical examination of the stomach aided by the stomach tube. It is largely a matter of accident whether or not the stomach is sufficiently distended to enable us to mark out its area by percussion. The passage of the tube allows us to distend the organ at will with either water or air or both. The stomach may be distended with gas by the separate administration of a carbonate and a weak acid, but this method —due originally, I believe, to Peck's bad boy, who nearly exploded his father with a Seidlitz powder—is not so certain nor so safe as the filling of the stomach by blowing air through the tube by means of an atomizer bulb. The amount of water accommodated by a stomach affords some indication of its size. It is a safe rule, however, never to introduce more than 1500 cubic centimeters at the first sitting, nor to continue the introduction of water after the patient, previously warned, gives notice of a feeling of tension or discomfort. Having obtained the area of an inflated stomach, we may vary the experiment by pouring in water and then reinflating above the water with air. In this case, we get first the tympany of the colon, then flatness distinguishing the lower curve of the stomach, and, finally, tympany in contrast with pulmonary resonance and hepatic dulness. A beautiful metallic tinkle is heard by placing the stethoscope at the level of the fluid and blowing air through the tube, the bubbles rising to the surface and bursting. This experiment is useful rather to illustrate the quality of metallic tinkling to students than for practical purposes, since the level of liquid can be determined quite as readily by percussion.

An idea of the muscular power of the stomach can be obtained by comparing the level of liquid in the funnel of the stomach tube with the level of the liquid internally. Usually, with a patient breathing quietly and not gagging, the water stands at about the level of the sixth rib in the nipple line. Retching, without auxiliary contraction of the abdominal muscles or diaphragm, will indicate the strength of the stomach wall.

Some attempt has been made to estimate the size of the stomach by noting the alteration of level produced by adding given quantities of liquid. An experiment tried by myself showed that, during an ordinary lavage, about 1500 cubic centimeters of water disappear, either by absorption or leakage through the pylorus, mainly the latter. With this observation in mind, it is clear that no reliable conclusions can be based on the change in water-level. Moreover, if it is true, as I believe, that the direction of the axis of the stomach varies in different individuals, the more upright stomach would, from this test, appear to be smaller than one of the same size situated nearly horizontally.

The combined method of exploration of the abdominal viscera applies in practice only to the stomach and the large intestine. While the arch of the colon may be quite accurately mapped out by auscultatory percussion, or even by ordinary percussion, by a person with a sensitive ear, the introduction of water by a high enema would heighten the contrast with the small intestine and the stomach. Again, the connections of a tumor may be made plainer by filling the large intestine alternately with air and water.

Senn's test as to the integrity of the intestine in gun-shot wounds of the intestine deserves a notice. Through the colon tube, he introduces hydrogen gas, which is lighted as it issues from the external wound. Of course, one should

not apply this test unless ready to perform celiotomy, as it practically insures, what is imminent in every case of intestinal perforation, the escape of fecal matter into the abdominal cavity.

The direct examination of the rectum, and of the mouth, pharynx and œsophagus, might logically claim a place in this discussion, but for the radical difference in technique.

SUCCESSFUL SECONDARY CELIOTOMY FOR HEMORRHAGE TWELVE HOURS AFTER THE PRIMARY OPERATION.*

P. W. LEITZELL, M.D.,† PHILADELPHIA.

The case reported is a somewhat unusual one in many features, and deserves the notice of the profession. The points of particular interest will be readily seen. The patient was Mrs. R., aged thirty-eight, married. She was admitted to Jefferson Medical College Hospital June 4, 1896. Both of her parents, as well as several other near relatives, died of tuberculosis. Her catamenia appeared when she was twelve years of age and were always painful, and irregular as to time and quantity. She had been married seventeen years, had two children, aged sixteen and fourteen, and had had two miscarriages, the first thirteen years ago, and the second eleven years ago, after two and four months gestation respectively.

The beginning of the present illness dates from the birth of the second child fourteen years ago, the puerperium at that time being complicated by a septic pelvic inflammation of a severe character confining her to her bed three months. For a year or more subsequently she was the subject of frequently repeated uterine hemorrhages. Ever since, she has suffered from a general train of symptoms common to chronic inflammatory diseased conditions of the pelvic organs, all of which have gradually become more and more pronounced with time, especially so since the occurrence of the last miscarriage. She presents all the characteristics of a marked nervous type, and is subject to frequent hysterical seizures. An examination of the heart disclosed a blowing systolic murmur. The lungs were healthy but the urine contained albumen.

An examination showed the uterus retroflexed; bilateral inflammatory disease of appendages, all firmly fixed by dense adhesions.

The necessary operation was performed by Dr. Fisher, June 8, at 10.30 A. M. The usual general aseptic precautions were taken, ether anesthesia was produced at first, but on recalling the possible influence of this anesthetic on the evidently damaged kidneys, chloroform was substituted. The uterus was dilated, curetted, irrigated with normal salt solution, and packed with iodoform gauze. The patient was now placed in the Trendelenberg posture and an abdominal incision was made through a wall of fat and muscle at least three inches in thickness.

The peritoneal cavity having been opened, the omentum was found to cover the pelvic structures, and, in connection with coils of intestine, formed a conglomerate mass with the uterus and appendages held together by moderately firm adhesions. The omentum and intestine were carefully separated from the pelvic organs. The uterus was retroflexed and fixed to the rectum and pelvic floor. After separating many dense adhesions, Dr. Fisher was enabled to raise the uterus and shell out the left ovary and tube from the broad ligament. The right tube and ovary were densely adherent to the broad ligament and the side of the uterus, the former having degenerated into a cyst the size of a small hen's egg, which ruptured in the effort at its enucleation. The fimbriæ

*Performed by John M. Fisher, M.D.

†Resident Physician, Jefferson Medical College Hospital.

and abdominal ostii of both tubes were obliterated and the tubes throughout their length presented the structural changes common to interstitial inflammatory disease. Both appendages were removed by a "mass ligature."

The abdominal cavity was irrigated with a normal salt solution, at a temperature of 112° Fahr., and sponged dry. Some oozing persisted, but no more than usually attends the separation of adhesions in other cases of a similar character, without the least cause for alarm. A Mikulicz drain was introduced, the gauze being firmly packed between opposing raw surfaces. The abdomen was closed with interrupted "through and through" sutures. Time of operation, one hour.

The patient was returned to bed in excellent condition. The drainage at first was no freer, nor were the dressings more blood-stained than is generally expected in favorable cases. At about six P. M., however, the dressings became more deeply stained, and saturation at shorter intervals than previously was noted, the patient at the same time giving evidence of progressively deepening shock. Dr. Fisher was sent for, restoratives administered, and everything placed in readiness for a secondary operation. Upon Dr. Fisher's arrival (ten P. M.), the patient was deathly pale, delirious, picking at the bed clothes, and covered with a cold, clammy perspiration. Her pulse was almost imperceptible and beat at the rate of 160 a minute, respirations rapid.

Chloroform was given sparingly. A hypodermatic injection of $\frac{1}{15}$ grain of strychnia was administered, the stitches were cut and the gauze drain removed. Very little fluid blood was found in the pelvic cavity. The patient was at once placed in the Trendelenberg posture, and by the aid of an electric head-light, the source of the hemorrhage was readily detected. A mass of clot occupied Douglas's pouch and was clinging to the site of the previously adherent right ovary. Upon removing this, the parts beneath presented a large raw oozing surface, confined, however, to the posterior aspect of the uterus and right broad ligament, and attached to the latter were several small fringes of the imperfectly ablated ovary. There were no spurting vessels. Removal of the uterus at this juncture, or separate ligation of the vessels, were out of the question. The patient was doing badly, and whatever was to be done had to be done quickly. Both broad ligaments were, therefore, secured in the grasp of long, narrow-bladed hysterectomy forceps, reaching down low enough to catch the uterine arteries, that upon the right side being placed at an angle with the uterus, so as to include the bleeding surface of the right broad ligament. The forceps were locked and allowed to remain, the handles projecting from the lower angle of the wound. The oozing ceased at once. The abdomen was now freely irrigated with hot normal salt solution, and after introducing the stitches, the cavity was again filled with the solution and closed without drainage. Fifteen minutes had elapsed from the time the abdomen was re-opened until the last stitch was tied.

During the operation $\frac{1}{20}$ grain strychnia was administered hypodermatically, and this, in connection with the hot salt solution, revived the previously flagging circulation very perceptibly. The foot of the patient's bed was raised, the head lowered, external heat applied, a second hypodermatic injection of $\frac{1}{20}$ grain of strychnia, with ten drops of tincture of digitalis, was administered, and stimulating enemata, consisting of whiskey, tincture digitalis, liquid peptonoids and normal salt solution, were given at frequent intervals; in fact for a period of eighteen hours the rectum was kept filled with as much fluid as it would tolerate. Within six hours the pulse at the wrist was of fair volume but still rapid, consciousness had returned, and other evidences of returning vitality became manifest. The following day her general condition was good; food was given by the mouth; the pulse was full and strong; re-actionary temperature of 103° at noon, which gradually defervesced until it reached the normal on the seventh day.

The gauze was removed from the uterus the following day. The forceps on the left broad ligament was removed twenty-four hours after its application, that upon the right within thirty-six hours. The patient improved rapidly and made a perfect recovery.

The points of special interest in the history of this case are:—

1. The constitutional condition of the patient, suffering from a pronounced heart lesion and albuminous urine, making her recovery after considerable loss of blood and the shock of a secondary operation the more remarkable.

2. The slowly increasing shock from loss of blood following the separation of extensive adhesions, as contrasted with the rapid collapse accompanying the slipping of a ligature.

3. The economy of time in re-opening the abdomen, and especially in arresting the hemorrhage by permanently clamping the broad ligaments so as to secure the main arteries of supply to the tissues involved.

4. Furnishing an indirect supply of fluid to the partially emptied blood-vessels by filling the abdominal cavity with normal salt solution and closing without drainage.

THE CHIEF PREDISPOSING CAUSE OF TUBERCULOSIS.*

EVAN O'NEILL KANE, M.D., KANE, PA.

With all due deference to the tubercle bacillus as playing an important rôle in the production of tuberculosis, and with the highest respect for those who have discovered it, I do not and cannot consider it more than a determining factor in the production of this disease. Possibly it may be the only determining influence, and possibly without its presence the tubercle cannot develop in lungs otherwise fitted for its production. But even this is a fact that is but barely proven, and numerous contradictory and puzzling phenomena confront the theorist in his endeavor to fit his facts to his theory.

Be this as it may, there is undoubtedly an especially predisposing influence; a subtle something of so grave a nature that, to my mind, it is far more worthy of consideration than is that tiny germ. Of far more importance, because, without this predisposing influence, the tubercle bacillus would be as powerless as is the roadside dust to do more than create mere local irritation. Some physicians question whether this predisposing influence actually exists, probably preferring to ignore facts in order to render more perfect their theory of tuberculosis and its special germ. They seem to doubt whether, given an equal amount of exposure to germ influence, everyone's constitution is not equally receptive. They seem to undervalue the enervating effect of bad hygienic surroundings, relegating them to a secondary place.

At the risk of being thought antiquated and unscientific, I must express my firm belief that "consumption," or at least the predisposition to it, is hereditary, and that I wonder whether the bacillus bears any more causative relation to it than does the aggregation of small boys to a conflagration. The larger the number of small boys, the more fierce is the fire. A big fire seldom occurs without their accumulated presence, yet they are found in small numbers everywhere when no fire exists.

Undoubtedly, however, there is an intimate connection somewhere! Is not the theory of the causative relation of the bacillus a sound one? I do not really wish to ridicule a theory so well borne out by facts as the present one of tuberculosis. I merely wish to point out that it is not entirely sound, and that it does not reach the root of the problem, there being something of far more importance that is overlooked.

Few experienced practical physicians doubt the presence of this inherited something, called a predisposition, which often blights whole families or brands each member of a common stock who bears a resemblance to some specially debauched, dissolute ancestor. When both parents bear this inherited taint, despite a superficial appearance of sound health, do we not all tremble for the

*Read before the State Medical Association at Harrisburg, May 23, 1896.

fate of the coming generation? and is it not with reason?

Does this dreadful predisposition to ultimate decay show in earlier life no characteristic sign of its presence, no marks whereby we may recognize it? Yes, there are a few peculiarities; those spoken of by former writers and classified vaguely under the head of a strumous or scrofulous diathesis. With the more pronounced symptoms exhibited by these scrofulous subjects we are all familiar, though the less obvious yet none the less ever present are more readily overlooked. The feeble resisting power common to all is an unfailing attribute. If reared under circumstances favorable to health, the grosser symptoms of their disorder are obscured. Their growth may then be rapid, their frame well fleshed and their complexion rosy. Yet if in early life they are attacked by cholera infantum, diphtheria or the exanthemata, their tissues melt like snow, and they die readily, when their apparently less robust but untainted companions survive the same diseases without difficulty. If they attain a later age they are the subjects for softened spine or the various inflammatory bone and other diseases brought on by apparently trivial causes or the fatal destruction of lung tissue called pulmonary tuberculosis. Such subjects are prone to the inception of the minutest forms of germ life. The various parasitic skin diseases, as well as the itch and other large vermin, find in them a ready prey, living upon or penetrating their tissues, exhibiting such activity as renders their banishment most difficult.

A multitude of causes have been assigned as productive of scrofula;—too many, for where the etiology of struma is attributed to so many and so different factors one naturally questions the power of any one, especially when we consider how distinctive is the chain of morbid phenomena that struma exhibits. Further, there are none of these supposedly conducive elements which, separately or collectively, have not been well known to exist without a single symptom of tuberculosis (scrofula) resulting.

Its origin is generally ascribed to darkness, impure air, filth, starvation or an improper diet, exposure to cold and other unhygienic conditions, but do they more than favor its development? The Cornish miners who scarcely see the light of day, though dwarfed in stature, are a hardy race. So too, are the Esquimaux, so far as scrofula is concerned, though breathing for months the foul air of their huts, never washing, habitually improperly fed or half starved, and subjected to the vicissitudes of an Arctic climate. Among the civilized, the rich, the enlightened of the upper classes, who have, on the contrary, every hygienic surrounding in their favor, struma is still of common occurrence and this despite every effort to eradicate it. We then have good reason to look for some other single cause, one potent one, invariable, that may be found active in all ranks of life and among all races; one from which neither the rich, the poor, the enlightened nor the ignorant, no country and no race are exempt.

It is that hideous and loathsome disease, syphilis, which is commonest today and was the commonest centuries ago. It is that unquarantined pestilence which is variously estimated as afflicting from one-twentieth to one-tenth of the entire human race. This is the only disease which is undeniably entailed, to quote the Mosaic text, "upon the children's children to the third and fourth generation." Does not such a disease, so persistent, so characteristically a disease of decay, of rottenness—a disease resulting in the destruction or vitiating alteration of every tissue—not exert a special influence upon the human race which is as characteristic as it is wide-spread and general? Is it not reasonable to assume that this ravaging pestilence, which has warred against the purity of humanity for centuries on centuries, must have left its mark in some special condition of debility and exhaustion peculiar to it? Yes, I reply, it is, and it is thus that I account for the peculiar tendency of the descendants of drunkards and libertines to fall a prey to tuberculosis. This is why the once vigorous and healthy Sandwich Islanders fell in hordes, like dying sheep, from consumption, after the visit of the debauched sailors who infected them with syphilis. It is for the same reason that, in Alaska and in the West, among our Indians, syphilis, brought like a fever among them by the traders, has now been followed by its result, consumption.

Air, sunlight and other benign influences do much to renovate our enfeebled tissues and rebuild what the vices of our ancestors have pulled down. Could syphilis no longer prey upon the human race, the tendency of nature towards recuperation would soon regain for us the perfect health of our first parents, and the very name of the tubercle bacillus would be forgotten.

How long is the medical profession going to submit to be muzzled? Was it not some poor brother of our craft, a slave perhaps like Æsop, who ages ago left on record his prophetic warning in the legend of the Minotaur? How long will it be before our nation ceases to pay its annual tribute of maiden virtue and innocence to the monster?

DISCUSSION.

DR. LA PLACE:—That which is called inherited predisposition to tuberculosis is simply inherited lack of vitality or stamina, which may occur from a variety of causes. Similar artificial or postnatal conditions are almost as common.

Anything that tends to depress vitality will render the most healthy liable to infection.

Any overtaxing of the vital and physical energy invites disease.

Dr. Priestly performed an interesting experiment with gray rats, which in a normal condition are not subject to the disease. He took twelve of the animals and injected them with the tubercle bacillus, with the result that none were infected. He then took the rats and, placing them in a revolving squirrel cage, allowed them to work for twenty-four to forty-eight hours without food. Then, upon repeating the injection, they were everyone infected and died of tuberculosis.

THE SIGNIFICANCE OF MURMURS IN THE DIAGNOSIS OF VALVULAR DISEASE OF THE HEART.*

ALOYSIUS O. J. KELLY, A.M., M.D.,† PHILADELPHIA, PA.

The study of the exact significance of murmurs in the diagnosis of valvular disease of the heart may not inappropriately be prosecuted by arranging our cardiac cases into three distinct classes: 1. Cases in which the presence of a murmur assists in the diagnosis of some valvular lesion. 2. Cases in which, despite the presence of a murmur, valvular disease may not be diagnosed. 3. Cases in which valvular disease may be diagnosed without the detection of any murmur whatever.

It is in cases belonging to the first two categories, cases in which we may detect a murmur in the region of the heart, that most mistakes are liable to occur, especially in view of the much greater frequency of these classes of cases. It may, therefore, be remarked that a murmur alone—that is, without corroborative evidence—is never diagnostic of any valvular disease of the heart.

The first requisite, absolutely essential to the accurate diagnosis of valvular or other disease of the heart, is a thorough physical examination of the lungs and pleuræ. For the varying states of health and disease to which the lungs and pleuræ are subject find an expression to a certain, often marked, degree, in the condition of the heart, which condition is very frequently similar to that which follows in the wake of certain valvular lesions.

In considering these murmurs, we must first definitely determine that a murmur heard in the region of the heart is of endocardial origin. We must eliminate all question of exocardial genesis; all pericardial, cardio-pulmonary, so-called hemic and venous murmurs.

First, there is the systolic murmur, with its area of maximum intensity in the region of the apex beat, usually designated the mitral systolic murmur, and which, when detected, is usually considered sufficient evidence to warrant

*Abstract of a paper read at the meeting of the Medical Society of the State of Pennsylvania, May 19–21, 1896.

†Visiting Physician to St. Mary's Hospital; Pathologist and Clinical Assistant to the Neurologic Department, Philadelphia Polyclinic; Pathologist to St. Agnes' Hospital; Assistant to the Medical Dispensary at the Hospital of the University of Pennsylvania.

the diagnosis of a mitral insufficiency, and which, when absent, usually presupposes intact mitral valves. And yet how frequently is the hemic murmur of chlorosis and other anemias heard loudest at the apex and during the systole? And how many pericardial and cardiopulmonary or pleuro-pericardial murmurs have their point of maximum intensity at, or are heard only in, the same region? And on the other hand, how frequently is the murmur of mitral insufficiency not heard with maximum intensity in the region of the apex, but upwards towards the pulmonary cartilage, where we usually hear loudest the so-called hemic, or accidental, or functionary murmurs?

A stenosis of the mitral orifice is usually diagnosed, and only then, when there is detected a diastolic or a presystolic murmur, with its point of maximum intensity at the apex. These murmurs are usually said to be strictly localized to the apex, and the presystolic is usually considered pathognomonic of the disorder. Both of these suppositions are equally fallacious. We frequently hear a presystolic murmur at the apex in cases of aortic insufficiency. (Flint murmur.) Other cases have lately been reported showing that a presystolic murmur at the apex may also be due to adherent pericardium, and other rarer conditions, among them disturbed innervation. Again the murmur of mitral stenosis is very irregular in its occurrence and may be absent for months at a time, and it is quite frequently possible to diagnose the condition without the detection of any murmur whatever. We must exercise care in the diagnosis of single lesions at the mitral orifice. They are of rather unfrequent occurrence.

In endeavoring to correlate the murmurs heard at or about the aortic cartilage—the aortic systolic and aortic diastolic murmurs—to the pathological conditions which give rise to them, we must be careful not to misconstrue the signs we wish to interpret. An aortic insufficiency may give rise to an aortic diastolic murmur, or it may not. And a diastolic murmur heard in the region of the aortic cartilage may be due to conditions other than an aortic insufficiency, as for instance a transmitted bruit from the veins. An aortic stenosis engenders an aortic systolic murmur, but not all aortic systolic murmurs are due to an aortic stenosis. Between eighty and ninety per cent. of all cases of aortic incompetency are accompanied by an aortic systolic murmur without there being present any stenosis of the orifice whatever. We must, therefore, be careful not to mistake an aortic insufficiency for an aortic stenosis, or a single lesion for a double one. In considering lesions at the aortic orifice, we must determine the presence or absence of an aortic aneurism, which, if present, may give rise to a systolic, or a diastolic, or a double murmur.

While, by reason of their much less frequency of occurrence, valvular lesions of the right side of the heart are less liable to lead to diagnostic errors than are those of the left; still, as they do occur, it behooves us to make no mistakes. In considering the probability of the presence of a tricuspid incompetency or stenosis, it is more the evidences of the lesion, other than a murmur, that enable us to make the diagnosis. And particularly must I refer to various venous pulsations which have elsewhere been the subject of a more detailed dissertation (*New York Med. Journal*, January 18 and 25, 1896).

Of necessity, because of the complexity of the conditions, it is in cases of combined valvular lesions that more difficulty will be experienced in making the correct diagnosis. But in such cases, similarly as in cases of single lesions, the diagnosis is to be based upon the demonstration of the physical signs of the pathologically-changed physical conditions of the heart. Of these signs the murmur or murmurs present constitute a part. The detection of a murmur and the localization of it to its seat of origin are essential elements in the diagnosis, but alone they do not justify the diagnosis.

For artificial feeding of infants, Griffith says: "I do not advise using milk diluted with plain water for young babies under four months old. The simplest and most common used dilutent is barley water, which is almost entirely innutritious, its action being purely mechanical in breaking up the casein."

CURRENT LITERATURE CONDENSED.

The Relation of the Weather to Fatality Following Surgical Operations.[1]

A study of the records of Bellevue Hospital for the six months beginning January 1, 1895, and ending July 1, 1895, was made and a list compiled of those cases which died within nine days of operation. While the statistics are too few to warrant a positive conclusion, it may safely be assumed that, of the weather indications, humidity is the principal one governing the outcome of operations, and that the barometer, wind and weather must be considered in relation to it and to possible changes they may indicate. Excessive humidity at the time of injury, whether operative or accidental, is a factor of no little importance in the consideration of the treatment and final result.

The questions that naturally arise are: Why is high humidity so detrimental? How does it affect the body? It appears that the action is twofold:—

1. In reducing the amount of excretion of the products of metabolism by the lungs and skin. Expired air is loaded to saturation with moisture containing excrementitious material—principally carbonic acid, but also ammonia and organic solids. If dry air be inhaled the expired air contains 100 per cent. of moisture with its proportion of effete material. If the air inspired contain 90 per cent. of moisture, necessarily but 10 per cent. of the returning moisture is directly from the lungs. If the normal New York air contains 72 per cent., there is left for the lungs, as a means of elimination, 28 per cent. (with no allowance for difference of temperature). As this percentage is reduced, so a corresponding part of the lung-function is interfered with.

So also with the skin, which normally throws off excrementitious material which is increased in amount in dry, warm air and naturally lessened in moist air. Consequently, excessive humidity interferes with the action of the lungs and skin as eliminators, and the excrementitious material remains to poison the system or must be secreted and eliminated by other ways—notably the kidneys—thus throwing upon the system and organs, at a time when they can least bear it, a greater amount of metabolic products and a greater amount of work of elimination.

2. Air is a poor and water is a good conductor of electricity. The more moisture the air contains the greater its conductivity and holding power. Cold air usually means dry air, as the colder the air the less moisture it can contain, air at the freezing point being capable of holding only 2.1 grains (0.136 gramme) per cubic foot, while at 98° F. (36.6° C.) it will hold 18.1 grains (1.17 grammes).—(*Climate and Health*, United States Weather Bureau). In cold, crisp, dry air one feels invigorated and filled with surplus energy; in warm, muggy, moist air, just the reverse. Is not this because, in the first case, the electrical potential of the body is high and that of the air low; and, in the second, the potential and conducting power of the air is high, it taking from the body sufficient to equalize or more nearly equalize the potentials, leaving the body deficient, and, as the contact air is continually changing, there is a constant loss of electricity?

If the effects be so noticeable in the normal state, is it not possible that they are still more marked under conditions—such as operation or accident—which, reducing the vitality, cause a reduction of the capability for normal potential; and, under circumstances increasing the potential, capacity and conductivity of the air, with change from positive to negative, would we not have surroundings very favorable for a rapid, large and continuous loss of electricity, and the conditions resulting which we now term shock and collapse? In support of this view the author quotes such authorities as Draper, Jenkin, and Tillmann.

These influences of humidity may best be counteracted as follows:—

1. Postponing operations of magnitude till the weather indications were

[1] Dr. Fred. Walker Gwyer, before the New York Surgical Society, *Annals of Surgery*, May, 1896.

most suitable. In a large hospital practice, were this done habitually, the work would very soon be in arrears; also, certain cases require immediate operation; but there are a large number of cases (those of disease and chronicity) in which operation might, without detriment, be postponed twelve, twenty-four, or forty-eight hours, or even for several days. The weather returns and indications might be obtained each morning, and, if unfavorable, those cases set for operation, which can be postponed, might be held over till such time as the weather be more favorable.

2. Drying the air. Those cases which require immediate operation and with unfavorable weather conditions, should be operated upon in, and afterward kept in, a dry atmosphere. This could be done easily in a hospital, and comparatively well in a private house, by attention to windows, doors, etc., and elevation of the temperature.

3. Raising the electrical potential of the air and of the body. The dry, warm air supplied in the operating and reception rooms will, in itself, serve to do this; further, the electrical potential of the room may be raised by the use of a static machine, and, in addition, a small continuous current might be supplied to the patient.

Exhibition of the Skeleton of a Eunuch.

In the large cities of Egypt, chiefly in Cairo, one meets on the streets quite a number of eunuchs attached as servants to wealthy families, and especially employed as guardians of women confined in the harems. As Godard had already observed, during his remarkable scientific journey in Egypt, these unfortunate fellows present, when they are adults, a very slender stature and shape, by which they are easily recognizable even from a distance. On the contrary, in childhood the castrated in no wise differ from other children of the same age. But as soon as they reach puberty, their growth occurs with great rapidity, and in a short time they almost measure two metres and above.

During my last stay in Egypt, says M. Lortet, I had the opportunity of dissecting in Cairo the body of a eunuch, about twenty-five years old, coming probably from the Echillouk's lands, situated in the regions of Bahr el Gazal, far south of Karthoum. The cranium was well formed, but the maxillary and dental prognatism is of the most pronounced type. The size of the skeleton is one metre ninety-six, while that of the subject alive was certainly above one metre ninety-nine.

The thorax seems very short when compared with the length of the lower limbs. The pelvis is very small, almost atrophied. On each side the obturator foramen is so large that there exists between them but a very narrow symphysis pubis.

The long bones are all exceedingly slender and do not present the crests intended for the insertion of muscles. The humerus is comparatively short. The radius and ulna are long and weak. The metacarpal bones very elongated and the phalanges alike, constitute a hand of lengthened and narrowed build, almost simian in shape. The femur very weak, hardly shows any curvature. The tibia and the fibula, both very slender, are surpassingly long. The feet are flat. The metatarsal bones and the phalanges are also very slender and very long.

The unusual lengthening of the limbs, is very remarkable, chiefly in the lower limbs. It was most interesting to point out this fact. It corresponds entirely with what we can verify in animals.

The ablation of the testicles, therefore, when performed before the growing age, brings on an increase in length of the abdominal limbs.

In Egypt, castration is at present performed on boys from seven to ten years old, by the monks of certain Coptic convents, who reap a good profit by supplying the harems of wealthy Mussulmans with some of their mutilated victims. The operation is made in two different ways, and I am sure of these facts. The first operative method consists in cutting off with a razor the sexual parts as near as possible to the pubic region, carrying away in a single stroke both the penis and the scrotum. Then the patient is buried, almost up to his neck, in some fine and dry sand for the purpose of staying the hemorrhage. After four or five days the sufferer is dug out and the wound is dressed with a few rags sprinkled with oil.

The second operative procedure consists in dividing or rather in crushing the spermatic cords and the penis by means of a strong twine whose extremities the operator pulls apart with all his might. The sufferings of the child are, then, horrible, but hemorrhage is not to be feared so much in this case. The sufferer is, therefore, not buried in sand and his wound is dressed with acacia bark, which is rich in tannin. But in either of the two procedures entailing these barbarous mutilations, two-thirds of the children succumb.

Ophthalmia Neonatorum.[2]

On being called to see a case of ophthalmia neonatorum, I first warn all the attendants of the danger to their own eyes as well as to those of the patient, not letting the mother hear much of the latter. Some years ago, I saw a grandmother lose both eyes as the result of inoculation from her grandchild, although the little patient made a perfect recovery.

On first seeing a case of ophthalmia neonatorum, I order a saturated solution of boric acid, for frequent cleansing; also

℞

Glycerite of tannin . . . . . ℥j.
Aqua dest. . . . . q. s. ℥i—M.
(Atropia sulphate . . . . ss. gr.
Sat. sol. acid boric . . . . . ℥ss)—M.
(Argent nitrate, gr. ij, gr. iv, or
gr. vj to dist. water . . . . . ℥ss.)

Four drops are ordered, and the patient's nurse is directed to put on one bottle a red or some colored string, with a corresponding color on the dropper used in that medicine, so the droppers and medicine cannot become mixed.

Acid boric gr. xv to vaseline ℥j, is ordered to be used on the lids to prevent gluing and to protect the skin during the frequent bathing.

The bottles are numbered 1, 2, 3, 4 and 5. No. 1 is the boric acid; No. 2, tannic acid; No. 3, atropia; No. 4, argent nitrate; No. 5, salt water.

The following directions are given, the numbers on the bottles only used: Bathe eyes well with No. 1 (boric acid solution) every hour. Four times a day, after No. 1 has been used, drop into each eye three or four drops of No. 2 (glycerite tannin). This cleanses the cul-de-sacs well; the lids should be manipulated thoroughly, and the secretion will come out in coagulated threads. The eyes are to be washed out with No. 1 again (boric acid solution). Night and morning, No. 3 (atropia solution) is to be dropped in; I do not wait for involvement of the cornea and iris before using the atropia. Four times a day, No. 4 (argent nitrate solution) is used as No. 2 (glycerite tannin), and the lids manipulated well, so it reaches the cul-de-sac. Immediately afterwards the eyes are flushed well with sodium chloride ℥j, aqua Oj. Then the lids are well anointed with the ointment.

The glycerite of tannin serves a double purpose: By coagulating the secretion, it acts as a cleanser, and then its action on the inflamed mucous membrane is favorable. Hydrogen dioxide is sometimes used for the same purpose. I think its use is dangerous, as it seems to have an unfavorable action upon the corneal epithelium, softening it and producing abrasions, which are followed by sloughs, loss of vision, etc.

I direct that nothing be used about the eye for cleansing, such as sponges; but instead, old linen and clean surgical cotton or such material as can be burned. When there is much edema of the lids, hot or cold applications are of much service. When these directions are followed from the first day of the disease, I do not believe any eyes will be lost.

Emotion products of the human system are found capable of producing color and, says *The Lancet*, the biblical expression, "Though your sins be as scarlet" may have reason in fact as well as analogy if Dr. Gates may be believed. He says the various human emotions and passions, good and bad, result in the formation of definite secretions. These circulating in the blood, act upon the brain and thus cause vice or virtue. He believes that they are excreted with the perspiration, in which they can be shown by chemical tests. He says he had isolated forty "emotion products." Vice and virtue give rise, respectively, to poisonous or beneficial products, "but the worst of all these secretions is that of guilt."

[2] William Cheatham, M.D., A.B., Professor of Ophthalmology, Otology and Laryngology in the Louisville Medical College, etc., in *Virginia Med. Semi-Monthly*, June, 1896.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Treatment of Purulent Ophthalmia.

Two new methods of treating purulent ophthalmia are advanced: Irrigation with permanganate of potash, and cauterization with nitrate of silver. Dr. Valude (*Méd. Moderne*, February 5, 1896) prefers the second, especially in case of lesions of the cornea. The irrigations of permanganate of potash must be considered only as an auxiliary in the treatment, and be employed only in abundant and rebellious suppuration. It is important to notice, besides, the mechanical influence of the washing with permanganate of potash, also the influence of it on the secretions. It is employed in solution of 1 per 3,000 or 5,000. The cauterizations with nitrate of silver must be considered as basis of the treatment. In fact, every time that an ophthalmia was treated by the irrigations with permanganate of potassium the treatment had to be terminated by instillations of 1 per 100 of nitrate of silver.

From the beginning, and if the ophthalmia is intensive, employ a strong solution of nitrate (3 : 100) twice daily. Little by little the solution should be reduced to 2 per 100 and to 1 per 100 in instillations. The application, even in weak solution, should never be used more than twice a day. In case the small grayish cavity, produced by the previous cauterization, has not disappeared, the application of the caustic must be suspended.

If there are lesions of the cornea, abstain from any cauterization, and be content with application of a pomade of iodoform.

Moreover, conjointly to these applications of caustic, which modify the mucous membrane, it is best not to neglect the large irrigations, the advantage of the mechanical action of which is not to be denied.

In particular cases, when the chemosis and edema of the eye-lids are excessive, employ also a solution of naphthol (1 : 5,000) to diminish the swelling.

All these solutions must be employed at a temperature of 30° C.

The employment of sublimate, in the treatment of ophthalmia in the newborn, is to be absolutely rejected.

Chronic Bronchitis of Children.

Bouchut (*Union Méd. de Canada*) recommends the following formulas:

℞

1.	Syrup quinini.	300	(℥x.)
	Arseniate sodii	0 10	(gr. ij.)

S.—A tablespoonful at breakfast.

℞

2.	Cod liver oil	150	(℥v.)
	Elixir garus		
	Syrup quinini	āā 50	(℥jss.)

S.—A tablespoonful at dinner.

3. Tar-water at meals. An immovable blister on the arm. In case of an abundant expectoration, administer two pearls of santal in the morning and evening in an infusion of eucalyptus. Diet: Milk, vegetables, wine of quinine, and other tonics.

Broncho-Pneumonia.

Lasigne (*Union Méd. de Canada*) gives the following formula:

℞

	Calomel		
	Opium	āā 0	10 (gr. ij.)
	Tartr. stib.	0	20 (gr. iv.)

M. et fiat charts, No. VI.

S.—One powder every two hours in bread.

In case of an intensive pulmonary congestion try bleeding, dry cups, vomiting, blister.

Guaiacol and Fissure of the Breast.

Dr. Molinier (*Journal de Med. et de chir. prat.*) observed a case of a midwife who desired to nurse her child, but, unfortunately, there were some cracks on the nip-

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

ple, on account of which the suction was so painful that it became intolerable. The author applied cocaine previously in a similar case, but the child got so weak that he gave this up. Then he whitewashed the nipple with an oily solution of guaiacol (1 : 10). Two minutes after, the guaiacol was taken off and the child began to suck. The mother was astonished to feel so little pain, and since that time she continued nursing.

Pessaries in Uterine Deviations.

Dr. Léon (*Revue de therap.*) is of the opinion that pessaries are not used so often as they ought to be. In some cases the pessary is alone sufficient to cure; it is very useful in mobile retrodeviations, accompanied by pelvic troubles and nervous depression. If the pessary is not able to cure completely the uterine prolapse and colpocele, nevertheless it relieves it greatly.

The main conditions necessary for a good pessary are: First, it must put the uterus in a normal position; second, it must relieve the patient, inasmuch so that she does not feel its presence in the vagina; third, it must not irritate the vaginal mucous membrane.

A good pessary must be smooth and very light. The best material for it is the hardened India rubber, becoming soft in boiled, and hard in cold water, which permits the surgeon to modify the curvature according to the case. For the uterine prolapse the author recommends Shultze's, and for retroversion Hodge's and G. Thomas's pessaries. The anterior branch of the pessary must never be applied to the osseous pelvis; the muscles of the pelvic floor, of which the elevator ani is the most important, and the vagina, with the rectum, are the true support of the pessary, and are sufficient to avoid its displacement during micturition and defecation.

Ichthyol and Unguentum Napolitanum in Urethritis.

In fourteen cases of acute urethritis Dr. Tlinsky (*Méd. Mod.*, April 18, 1896) administered injections of ichthyol (2-3: 100) twice a day, eight of them were greatly improved in six to eight days. For the last six the solution was at first not strong enough, and he was obliged to increase it to four, five, or six per 100; four patients were cured only with these injections and two had recourse also to rectal suppositories of unguentum napolitanum (0.60 centgr. or gr. x each). The last combined treatment was completely successful and all the patients were cured. The same treatment was used by Dr. Tlinsky in fifty-eight cases of chronic urethritis, which had not been relieved by the ordinary treatment. Injections of ichthyol, the dose of which was increased progressively, and unguentum napolitanum gave a good result. The unguent was used in a particular manner. Ten or fifteen bougies covered with the following pomade were introduced every day in the urethra:

℞

Unguentum Napolit. . . 15 Lanolini.	(℥ss).
Pomade with paraffin āā . 8	(℥ij).

The stricture was treated by dilatation with metallic bougies.

Urethritis and strictures were entirely cured by ichthyol injections, which diminish the inflammation of the urethral mucous membrane.

Hyperidrosis.

Dr. Heusner (*Deut. Med. Wochenschr.*, April 4, 1895) recommends the solution of balsam of Peru (1 per cent), acid. formicarum (5 per cent), and chloral hydr. (5 per cent.) in alcohol for local and general hyperidrosis. The general perspiration in phthisis and other diseases is improved by application only of a weak solution of acid. formic. (5 per cent.) and Peru balsam (1 per cent.) For sweating of the feet, arms and axilla chloralhydr. (5 per cent.) must be added to the ac. form. and Peruvian balsam.

Technique of Washing the Canal of the Urethra in Blenorrhagia.

The gonorrheal infection can be more rapidly and more easily exhausted by washing the urethra with a solution of permanganate of potash than by any other means, according to Goldberg and Janet. A solution of from 1:1000 to 1:3000 is used, according to the individual tenderness of the urethra. In acute cases where there is painful inflamma-

tion a still less proportion is used, that of 1:4000 or 1:6000. In this acute stage the washing is but a palliative therapy. The infected parts must be washed every twelve hours to begin, and when improvement becomes noticeable, once every twenty-four hours, but never more seldom than this.

It is necessary to have an irrigator of the capacity of one litre, a rubber pipe a half meter or meter in length, and a glass end-tube to a syringe with an olive-shaped opening of a diameter of 2 mm. It is important that the irrigator should be elevated. The washing can be done only in the anterior urethra or throughout the whole canal, in which case the solution is allowed to enter the bladder, although when this happens the anterior urethra cannot be very thoroughly cleansed.

When it is desired to irrigate the entire urethra, the irrigator should be suspended at least 50 cm. above the bed. Let a finger of the left hand pinch the pipe whenever it is necessary to interrupt the flow. As a general thing the glass end must be inserted fully into the urethra and the parts thoroughly washed before irrigation is begun. Let the solution penetrate the anterior part of the canal, which becomes distended, and as the sphincter bars the way, all the orifices of the urethra are consequently washed. So soon as the operator feels with the right hand that the urethra is distended, the left hand must control the flow of the solution by pinching the pipe, and the end must be partially but not entirely withdrawn from the orifice. After a small quantity of the solution has escaped, re-insert it, and again distend, repeating the manipulation thirty or forty times, or until the entire litre is used. While the canal is swollen and indurated it cannot easily be distended by the irrigation, and great precautions are to be taken in such a case. If an attempt is made to force a distention by increasing the height of the irrigator, it is possible to rupture the mucous membrane. Hence the necessity of the guarding pressure of the left hand upon the tube. It often happens that passing the urine helps the solution to penetrate the anterior urethra.

The pressure must be greater in irrigating the posterior urethra, at least 1.50 meters being necsssary. Still if the sphincter does not yield, effort should be abandoned, else the severity of the attack may be increased through the irritation which would then be set up in the anterior urethra. This failure of the sphincter to relax on the first or second washing has been observed in nervous people and in people with large and strong muscles. In these cases it is useful to inject, after a preliminary washing, a small quantity of a weak cocaine solution, which will overcome the resistance of the sphincter, and relieve the pain that sometimes attends the irrigation. The patient should be instructed to separate his thighs widely, and make a slow and deep inspiration simultaneously with an effort to avoid urine. This washing of the posterior urethra and the bladder should not be so full for the first few times as when only the anterior is washed. The patient must not attempt the irrigation himself without thorough instruction by the physician. The solution must be freshly prepared for each time, the hands thoroughly disinfected, and the exterior parts washed with a weak sublimate solution.

The after nervous effects in sufferers in the St. Louis tornado were in some cases very serious. Dr. W. B. Outten, editor of the *Railway Surgeon*, has collected a number of interesting statistics from physicians. He says a number of lethal issues have been observed among young as well as old, healthy and sick individuals, where death was attributed to fear during and in consequence of the tornado. Several suicides were reported, which, to an extent, were undoubtedly due to an intense disturbance of the *psyche* of the unfortunate individuals by the storm and its direct destructive consequences. The impression upon the nervous system of susceptible individuals will probably not be wiped out for months or years, and the study of the nervous phenomena resulting therefrom will be interesting, profitable and instructive. Nor will the subject be exhausted by the resulting affections of the nervous system alone, but the direct effect of the storm upon the course of other ailments and diseases will be equally interesting to note.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:

A. L. BENEDICT, A.M., M.D.

SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, AUGUST 29, 1896.

EDITORIAL.

PROFESSIONAL COMPLAINTS.

A contemporary popular magazine contains a symposium by six teachers, representing both sexes and various grades from the primary to the superintendency. Each article is written with the frankness allowable in anonymous contributions, and, from internal evidence and information received from other sources, we believe that the article affords a fair idea of the advantages and disadvantages of the life of a teacher who has been successful, though not in any extraordinary degree. It is significant that without an opportunity for concerted action, all of the writers emphasize the influence of politics both on the schools and on the life of the teacher, and all but one or two complain of the monotony of their life and of the inadequacy of the pay. The article is one of a class, setting forth the inner life of members of various avocations and indicating a fermentation of discontent. We believe that this discontent is due to the stage of development of American society. Its causes could not have existed in the rude equality of pioneer settlements, while they will tend toward self-extinction as we reach the stage of relatively permanent classes.

We do not mean to imply that the discontent expressed by these writers is unreasonable, but we think they have failed to perceive that the same com-

plaints they make of teaching might justly have been applied to professional life as a whole, and that the causes are generic and not specific.

There are 423,000 teachers in the country and about a quarter as many physicians, the average clientele of the latter being about 600 of the total population, and of the former about fifty persons of school age. The incomes mentioned in this symposium confirm the general impression that a successful teacher, well established, may expect a salary of from $1500 to $2000. Few will assert that the average physician has so great an income, especially if we deduct the strictly professional expenses for which the teacher has practically nothing to correspond. Yet the teacher works seven hours a day (actual school sessions are, in most places, five hours), five days a week, thirty-nine to forty-two weeks a year; the physician at least twelve hours a day, six and a half days a week, fifty weeks a year, or nearly three times as many hours as the teacher. The teacher's work is certainly monotonous and harassing but he would probably dislike to relieve its monotony by leaving his comfortable bed at midnight or by meeting the strange and nerve-wearing emergencies for which the doctor must keep himself in readiness. Both professions tend to peculiarities of thought and manner, both are liable to heavy responsibilities, and it is impossible to weigh the physical good expected of the doctor against the moral and intellectual welfare which society owes to the teacher, and to say that this or that is the more important. On the whole, the teacher has a longer and a less exciting life than the doctor. It depends on temperament which is the more enjoyable, and we must not forget that it is easier to see the thorns on our own roses than on our neighbors.

We are inclined to the opinion that a candid expression from the average member of any profession would emphasize the same two complaints—insufficient compensation and political machinations. A glance at the census returns explains the whole matter. Twenty-three millions, not much over a third of our population, are engaged in "gainful occupations." A little more than eight millions are actually wresting food from the soil or water, and, in the widest sense of the word, the producers number only fourteen millions. Seven millions are useful as traders and carriers, and personal and domestic servants. In the professions which minister to the health, financial, spiritual and intellectual welfare and the amusement of the people, are included nearly a million, upon whom, in turn, there must be two or three millions dependent. This million of professional workers, rightly enough, demand as much or more pay from the ultimate producers as do the four millions engaged in personal and domestic service, and, per capita, at least twice as much as the average producer can keep for himself. We can scarcely be understood to ignore the superior quality of the work of the intellect as contrasted with the work of the muscle, nor to commit the sophistry of arguing that because a man does not literally produce some material necessity of life, he is to be classed as a drone. But it must be admitted that the professional class is a heavy tax on the community as a whole, and that it must be kept within so narrow limits as possible. We believe there can be no dispute as to the truth of the assertion that the professional class is too large. Our own profession numbers at least twice so many men as are needed to care for the health of the country; the legal profession, even with its many collateral opportunities, is overcrowded, and a considerable share of the clergy are a dead

weight on society. For merely educational purposes, fewer teachers might suffice; but so long as mothers wait with impatience for babies to reach the age of admission to public schools and fathers shirk the moral and civic training of their children, together with the present growing tendency to relegate even the natural mechanical tastes of boys to manual training schools, and to systematize spontaneous play into the games of the kindergarten, the teaching profession must rather increase than diminish in relative numbers.

Still, the teacher, like the professional worker in other fields, must realize that he belongs to a class which has become too great a burden upon the community. His proper income will be paid grudgingly, simply because the natural ratio of producers and consumers has been disturbed. It is likewise obvious that, in the scramble for position, some other factor than merit must come into action. In professions like that of the teacher, which can be filled with comparative ease from without, candidates inevitably tend to become the puppets of outside politics, and the man who prefers to stand upon his own merits becomes unpleasantly aware of this pernicious tendency. On the other hand, the professions, at whose entrance greater barriers are erected, like our own, or the ministry, or the military, are pervaded by a tendency to the development of an intra-professional intrigue, which perhaps gives rise to more feeling and has as great disadvantages as the methods often brought to bear to secure advancement in the profession of pedagogy. Such things are no doubt regrettable, but so long as the supply is greater than the demand and the spirit of competition for mere place is so keen, there is no remedy.

ABSTRACTS.

THE MUSCLES OF RHACHITICAL INFANTS.*

The muscles of the newly-born and of the infant are feeble. The total weight of the muscles of the newly born, compared with that of the adult, is one to forty, while the relation of the skeleton is but one to twenty-six. After a while only the dynamo metric effect of the child's muscles will increase. Mainly is that so after the sixth year. But even then it is only temporary and not persistent. Nor is their sustaining and persistent strength satisfactory. The frequency of traumatic joint inflammation in infancy and early childhood results from the incompetency of muscular resistance. Falls are very frequent. Squinting is common in small children, simply because their muscles of accommodation and motion are insufficient. Scoliosis is frequent even in infants and children not suffering from or affected by any ailment. Growing pains are often muscular only, and the result of over-exertion.

This is much more evident in those suffering from rhachitis. What has been called rhachitical pseudo-paralysis by Berg and others is but a confirmation of the fact that the muscular structure is insufficient. This condition may be universal, or only a certain class or combination of muscles are the principle sufferers. Strabismus is particularly perceptible in rhachitical infants. With it is occasionally combined, or there is found isolated in some instances, nystagmus, which being in such cases the result of the insufficient ac-

*Dr. A. Jacobi, before the Pediatric Section of the New York Academy of Medicine.

commodation, is mostly noticed to be bilateral. In many of these exclusively muscular cases there is a motion of the head in the same or opposite direction. An instructive case of the kind was published by Caille some years ago. Scoliosis is very common in rhachitical children and those who have been so.

It is true that rhachitical children are apt to be very strong after recovery, but the pressure that children are subjected to in our schools, and the expensiveness of fresh air in large cities, and the exposure to indoor life more than one-half or more of the year in our climate, allow but little chance to rhachitis smitten little ones. Habitual scoliosis of the very young, up to the tenth year, is almost exclusively muscular, mostly dorsal, or sometimes lumbar, with the convexity usually to the left. Not being able here to follow up the cases of school children with their left arm (shoulder forward) on the table, clothing massed under one gluteus, and defective sight, I refer only to what we see in rhachitical babies, particularly when carried on one arm only. More than healthy babies they grow scoliotic. Even when sitting in their chair, not supported by their own strength, they topple over in one direction or the other. Even before scoliosis occurs there is a general flabbiness of the muscles, which prevents free sitting altogether and causes an apparent or actual kyphosis. The latter is easily distinguished from a spondylitis kyphosis, inasmuch as it does not exhibit the same angular shape. As long as no bones participate in the deformity the diagnosis can easily be made between that caused by weakness and that resulting from actual bone disease. By raising the baby's heels and hips, while the chest and chin are supported, the apparent curvature depending on the weakened muscles will instantly disappear and lordosis rather than kyphosis will be observed.

This feebleness of the infant's muscles, when intensified by rhachitical malnutrition, is evidenced by nothing better than the symptoms connected with the insufficiency of intestinal muscular tissue in early life, which is exemplified in different ways.

One of the reasons why, for instance, renal disorders are not at all uncommon in intestinal diseases of early life, is the feebleness of the intestinal muscle in the young, which is less capable of expelling decomposing feces and toxins. This feebleness of the muscles shows itself, however, still more frequently in another symptom, which is quite common in rhachitical children, and even pathognomonic for early rhachitis. Take an infant born at full term, with good weight, breast-fed, and apparently well and increasing in weight. The bowels are reported to have been regular for four, six or eight weeks, then they become costive. There is no apparent change; the baby does not appear to be sick, is perhaps a little quieter and paler. Even the early cranial changes of rhachitis are sometimes not so perceptible as to be positive evidence of that disease. But this constipation is. Go on with the same feeding, air and other surroundings being the same, and more symptoms of rhachitis will soon develop.

In order to be certain of your diagnosis of rhachitis from this symptom, every other cause of constipation ought to be capable of exclusion; for instance, chronic colitis and peritonitis, deficient or viscid mucus, local atrophy of the intestinal muscle, or stricture of the intestine, perhaps even cystic tumor, though they be excessively rare. The apparent constipation, which results from insufficient feeding, either intentional or not, and resulting in starvation; the super-abundance of casein in milk, of starch in artificial food; the relative absence of sugar; hardened feces in the colon; hydrocephalus and other causes of defective innervation. Exclude also the drying up of the intestinal contents by excessive perspiration during the hot summer months, in hot rooms, under heavy clothing, or by diabetes insipidus. After excluding all these possible causes of constipation you will not fail to make your diagnosis of rhachitis, which will possibly be confirmed by other symptoms of rhachitis if you wait a short while, or rather, and that I prefer, by the effect of antirhachitical treatment.

The differential diagnosis is also to be made from the form of constipation, which I have termed congenital consti-

pation. The facts are briefly as follows:—

The embryological intestine is formed in separate divisions. There is no ascending colon before the fourth or fifth month of fetal life. In the newly-born it is very short. In spite of this the large intestine of the mature fetus is longer in proportion than that of the adult. In the new-born it is three times, in the adult only twice as long as the body. This is the same proportion that is found for the small intestine, this being twelve times as long as the body in the newly born, eight times as long in the adult.

The ascending colon being very short the surplus of length belongs to the descending colon, especially to the sigmoid flexure. As the pelvis is very narrow, the great length of the lower part of the large intestine causes multiple flexures instead of the single sigmoid flexure of the adult, consequently now and then two or three flexures may be found overlapping and compressing each other. One of them is quite often found in the right side of the pelvis, and not at all as an anomaly, as Cruveilheir and Sappey thought. Huguier found it in that location so often that he proposed to operate for artificial anus on the right side in small infants.

The great length of the colon and the multiplicity of its flexures retard the movement of the intestinal contents, facilitate the absorption of fluids and render the feces solid. Time and again have I been compelled to manually remove hardened feces from the recta of babies otherwise normal, and fed exclusively on normal breast-milk. The principal points of the differential diagnosis are consequently furnished by the time at which under the same apparently favorable circumstances constipation begins—in the "congenital" form at birth, in the rhachital in the second or third month.

In several instances, many years ago, I subjected rhachitical children of the second year who could walk to the Faradic and galvanic currents. It appeared to me that when they were tired the electrical current had to be increased. But such patients at that early age are not favorable subjects for experimentation. The treatment in every such case should begin with rest and with exercise gradually increased. Hydro-therapeutic measures, from warm bathing to cold friction, are indicated. Massage will improve the circulation, and chemism, and arsenic and phosphorus will probably improve the general tissue building. Veratria, physostigmin, digitoxin, in small doses and given frequently, may be able to restore or produce the normal tone in the feeble muscles.

THE RHEUMATIC DIATHESIS.*

There are in medicine certain scapegoats that are made to bear the burden of causing maladies for which no better explanation is at hand, and among these convenient animals none is obliged to carry a heavier load than is thrown upon the back of rheumatism. It remained for a recent French writer to collect together all the affections that may be put down to a rheumatic cause, and in a chapter of a work entitled "Traité de Médecine et de Thérapeutique," Dr. H. Richardiére attributes so many of the medical evils of life to the agency of this diathesis as to suggest that it might be as well to drop other titles and call all forms of disease rheumatism.

In general this writer states that the subjects of the rheumatic diathesis have a tendency to congestions, which, as he goes on to show, may seat themselves in almost any part or organ of the body. The tendency makes itself felt at a very early age, and shows itself during the first dentition particularly in the form of eczema of the face and head, starting usually from about the mouth, and spreading first over the cheeks. With older children the more marked results are affections of the mucous membranes of the air passages in the form of coryza, trachelo-bronchitis, pharyngitis

* *Northwestern Lancet*, June, 1896.

and tonsillitis. In children the slightest cold produces a coryza from which there comes a profound discharge, or a trachelo-bronchitis with cough, particularly at night. Asthma not infrequently comes as a sequel to the repeated attacks of bronchitis.

Sometimes the rheumatism takes the muscular form and there occurs torticollis or those vague pangs which mothers are wont to denominate "growing pains." The relation between the so-called growing pains and acute, articular rheumatism has now a world-wide acceptance, and every medical man meets with cases of endocarditis where the only history that in any way suggested a preceding rheumatism was the acknowledgment that the child was in the habit of complaining of vague pains in its limbs, which were made little account of at the time, and were attributed to the period of its growth.

The next series of pathological events to be laid to the door of rheumatism comes at the time of puberty and in both sexes takes the form of acne, a disease well known to prevail at this time, and usually attributed to the profound disturbance of the general system that accompanies the development of the sexual function. In girls, at this time, the diathesis is also blamed for various menstrual disturbances, in particular for dysmenorrhœa and the accompanying headache and backache of menstruation. In boys the tendency manifests itself in nocturnal and often in diurnal seminal emissions. If the latter phenomena are to be conceded to be due to rheumatism, it must be admitted that the diathesis is nearly universal with the male sex, since seminal emissions at puberty are so much the rule as to be generally considered physiological rather than pathological.

In adult life the dyscrasia leads to the development of plethora, with high color, vascular engorgement and abdominal protuberance. Early baldness appears, perspiration comes easily and freely and there is a striking tendency to eczema, especially in the axillary, inguinal, popliteal and palmar regions. This eczema is nearly always of the pruriginous variety, of slow development and chronic course. Meantime the appetite is good, but dyspepsia is a common occurrence, particularly in the form of fermentation with the accompanying gas. With the digestive disturbance goes constipation, whose natural accompaniment is hemorrhoids, with a marked tendency to bleed. The urine is scanty, high colored, and readily deposits urates; in some cases there is phosphatic urine.

On the part of the nervous system there is, in women, a tendency to hysteria and to neurasthenia. Neuralgias occur often, and may be seated in any part of the body. The neuro-rheumatic temperament is considered of much importance by Grassett, who attributes to it a leading part in the causation of nervous diseases.

Later in life the manifestations of the rheumatic diathesis are more grave, as it shows a tendency to attack the parenchymatous organs. The author here takes up the subject of gout as if it were one and the same thing as the disease he has been considering, and points out its relation to nephritis, diabetes and arterial sclerosis, which must be admitted. He also claims for rheumatic subjects a tendency to cancer greater than that of the average, but this is happily offset by the announcement that phthisis has a much slower course with them, and has a tendency to self-cure by a process of sclerosis of the lung tissue.

Such is the picture of the rheumatic diathesis drawn by the French writer. That it is in many parts greatly exaggerated none will deny. But it includes several affections that are coming to be classed as rheumatic, the chief of which among those already mentioned is tonsillitis, particularly in the follicular form. Another disease not mentioned by this writer, but claimed for rheumatism, is pleurisy, and it is to be admitted that rheumatism is getting a growing importance in the causation of skin diseases. In England it is the fashion to ascribe to gout every malady not otherwise accounted for. Many physicians have a way of calling all doubtful cases syphilis. Perhaps it would do no harm to give rheumatism a little more swing as a factor in the causation of disease, and to try an anti-rheumatic remedy as an aid to diagnosis.

SLEEPLESSNESS.

Norbury (*Med. Fortnightly*, May 15, 1896) writes:—It is unfortunate that the physiology of sleep is not better understood. It is even more unfortunate that what we do know about the phenomenon of sleep is not more diffused among the profession. How frequently indeed, do we observe physicians who mistake unconsciousness for sleep, and who seemingly regard the goal of the application of their therapeutical measures, as having been reached, when they have succeeded in rendering a tired, worn-out, nervous individual oblivious to his surroundings by placing him in a condition which they call sleep, but which is, simply unconsciousness. An experience of several years in insane hospital practice presented to the writer, in a very strong light, the enormity of this error and its wide prevalence. It was no uncommon sight, to see patients brought to the hospital in an unconscious state, due to the administration of narcotics; opium or morphine being the favorite drug used. One case is worthy of mention here, a male, neurasthenic, harmless, but suffering from the exaggerated mental symptoms, so marked in this disease, was accompanied by his physician to the hospital. The physician stated his reason for coming was, that he considered it important to keep his patient asleep, so that he would not appreciate the humiliation of entering the hospital, and further, that inasmuch as he had not been sleeping well for some time, and that he was now sleeping, he considered the opportunity a good one, to let him recuperate. To this end, the physician was at intervals giving hypodermic injections of morphine, and the poor, worn-out, narcotized patient, saturated with morphine, and believed to be asleep, was, as best he could, with his worn-out nervous mechanism, fighting for his life, which his respiration, weak pulse and inhibited reflexes, showed was at very low ebb. This case was not an exceptional one; it was, alas, too common an experience. The physician had lost sight of the very essential principle which should govern our therapy in the treatment of sleeplessness, and that is, that sleep has for its object the repair of the wear and tear of vital processes of life, and to insure sleep we must not interfere with these processes, which we do when drugs are given until sedation results.

There is another thing to bear in mind in the consideration of sleeplessness, and that is, that there is a source of irritation somewhere in the economy, which, if relieved, will be followed by sleep. Again, "an axiom" well worth remembering, is, that the more gentle the means employed to induce sleep, the more natural will be the sleep induced, and the more gentle the means employed, the more careful must we be to select the right time for their use. We believe that Dujardin-Beaumetz was right when speaking of the use of drugs in the treatment of sleeplessness; he said: "That for a drug to be hypnotic, it must imitate the natural condition of sleep, by effecting a lowered intra-cranial pressure and that drugs which, though bringing about unconsciousness, do not lower cerebral pressure, or which increase it, cannot claim to be hypnotics. Opium and morphine are objectionable on this ground. Drug treatment must put the patient in a position to go to sleep in a natural way, and not *put* him to sleep." Sedatives do this, but narcotics do not.

In the use of sedatives we must be cautious and not use them *ad libitum*. The writer in a paper on "Sedatives in the Treatment of Insanity" (1892, *Hospital Bulletin of Minnesota*), said, "Each case is a 'law unto itself,' and as such requires patient and persistent study ere we commit the folly of giving a hypnotic, when more simple and efficacious methods would produce satisfactory results." You cannot cure sleeplessness by drug treatment; the drugs simply conserve nervous energy and act as valuable assistants to the building-up process, necessary to cure the sleeplessness. Sedatives act, as before stated, by placing the patient in a position to go to sleep, and nature does the rest.

In our experience we have learned to

rely upon the bromides, chloral, cannabis indica and hyoscyamus as sedatives, which, if judiciously used, bring order out of chaos. The bromides lower the sensibility of the brain, and thus promote sleep. The single salts can be used, but in the writer's experience, where a sedative is indicated in sleeplessness, it is better to combine them, and when there is any excitement, add chloral. Cannabis indica is a sedative which is but little used by the general practitioner, and for the reason that it is misunderstood, misrepresented, and as a result never used as it should be. Clouston, Mathison and Echeverria have taught us their value. Hyoscyamus is another sedative, the value of which is not appreciated, a drug which is endorsed by Budde, Brush, Krafft-Ebing as a hypnotic. Now, these valuable sedatives, when combined, give us a thoroughly reliable and satisfactory agent, with which to treat sleeplessness, and in the writer's experience no more elegant or reliable preparation is before the profession than that of Bromidia, in which is combined in proper proportion, the bromide of potassium, chloral hydrate, hyoscyamus and cannabis indica. We feel that the profession can always rely upon this combination, and find it especially useful in the treatment of sleeplessness.

VISITING LIST OF A PHYSICIAN AS EVIDENCE IN SUPPORT OF HIS CLAIM FOR PROFESSIONAL SERVICES.*

The book entries of a physician or surgeon, if made at the proper time and itemized as minutely as is required in the case of a merchant, may be properly received as evidence to prove a claim for medical services; but a physician's visiting list containing simply a name with a succession of hieroglyphics, to be explained only by the person making them, who, in this case,[1] was the physician himself and an incompetent witness, inasmuch as his patient against whose estate the claim was sought to be established was dead, is clearly inadmissible as a book of original entries to prove a claim for such services against the estate of such decedent.

This was the rule of evidence applied in German's Estate, and it has since been followed in Pennsylvania. Ashman, J., in passing upon exceptions taken to this ruling, said, "The rule of evidence which introduces a tradesman's book of original entries to prove his sales, is permitted to override the principle that a party may not manufacture evidence for himself, on the ground of convenience. It cannot be said to have been dictated by necessity, because in England, where these books serve only as memoranda from which the party producing them may refresh his memory, it has been found that all the advantage, without any of the danger incident to this character of proof, is obtainable. For the reasons which justify its use in the case of a merchant, it has been so far extended as to embrace, perhaps, the books of any person whose business is not in money, and is of such a nature that its transactions can be itemized with the precision with which a sale may be recorded. It is perfectly consistent with this broad statement that a doubt should have been expressed in Hale's Executors *vs.* Ard,[2] whether the books of an attorney containing charges for advice are evidence. Such entries, as was there said, must be incapable of certainty in description, because the services themselves are indefinite in their nature, and can neither be gauged by the time they occupy, nor compared with other similar services with which a jury is supposed to be acquainted. But this objection can scarcely be said to apply to the record kept by a physician. It may cover a daily entry of each visit, with the name of each patient, a list of the medicines furnished, and the price which custom has fixed for the particular

*Lorenzo D. Bulette in the *International Medical Magazine.*

[1] German's Estate, 16 Phila. 318 (1883).

[2] 12 Wright, 24.

service. Such a record will comprise all the incidents of certainty of time, person, labor and value, and each entry will be complete in itself. No more than this is required in the books of an artisan, and the measure of necessity is at least as great in the one instance as the other. If the proposition has been correctly stated, it affords an easy test of the validity of the proof submitted by the claimant. His diary or visiting list, as a physician, contained on each page a list of names of patients, with tally marks opposite, in columns which were headed separately with the days of the week; the name of the month appearing at the top of the page, and the date of the year on the cover. One column at the end of the space for each week was headed 'Amount.' Preceding these lists, as a sort of preface to the book, was a 'Table of Signs.' This table embodied a series of hieroglyphics and figures, which were intended to denote visits made and to be made, and visits repeated or to be repeated; consultations proposed or made; services at the office; visits at night; medicines furnished, and the like. It is quite clear that entries patterned after this fashion could serve, at best, only as memoranda from which to make more formal charges. As original entries, even if decipherable, they were incomplete, because their form admitted only of a weekly charge in money, and, in point of fact, no charge at all appeared to have been made. Allowing the utmost latitude to the plea of convenience and necessity, the law cannot tolerate as self-proving an entry of services which can be translated only by means of a glossary. Such writing would be as unintelligible to any ordinary jury as a Hebrew Bible to a deputy sheriff. The auditing judge, therefore, properly threw it out of the case. The sum which he finally awarded the claimant, we think, was all that was shown by the oral testimony to be due."

And, in a recent case,[3] Hanna, P. J., in following the law as above laid down, said, "The physician, the claimant, was, through his own want of care and forethought, unable properly to prove his claim for medical attendance and services to the decedent. By reason of the death of the latter, the claimant was incompetent to testify as to matters occurring in the lifetime of his late patient, so far as related to his own claim. This he must be presumed to know, and a due regard for his own interest should lead him to keep a book of original entries, showing a charge for attendance, with the date, the name of the person against whom the charge is made, and the amount of compensation for the services or attendance. If this had been done, the book properly and regularly kept, supported by the testimony of the claimant or his clerk who made the entries, will be *prima facie* evidence, and thus far sustain the claim. But, on the other hand, the physician relied upon what is known as a 'visiting' list to prove the number of his visits, and the parol testimony of experts to show their value. Such a book, containing simply a name, accompanied by a succession of hierographics, to be explained and translated only by the person making them, who, as shown, is an incompetent witness, is clearly inadmissible as a book of original entries."

And the judge continues, with some emphasis, "It is a matter of surprise that physicians are so lax in this respect, and the present case furnishes an illustration of the danger of depending upon that which is simply a memorandum book for their own information and to refresh their recollection. In fact, in the case before us, if the testimony of the niece of the decedent had not been attainable, the claim would be entirely without support, and this alone prevented its entire rejection. We think the claimant should, under the circumstances, be content with the allowance made to him by the auditing judge."

The rule excluding physician's visiting list, as books of original entry, as applied in Pennsylvania, prevails, perhaps, in the other States of the Union, except Mississippi.

[3] Kelley's Estate, 5th Dist. Rep. 283 (1896).

For headache, vertigo, etc., due to atheromatous degeneration:

℞

Ergotin . . . . . gr. iss.
Extr. of calabar bean . . . . . gr. ¼.
Extr. of gentian . . . . . q. s.

M. ft. pil. no. j.

Sig.: From one to ten pills daily, increasing the quantity according to tolerance.—*Le Progress Medical.*

HYSTERICAL ANOREXIA.*

We can only succeed in forming a history of hysterical affections by studying separately each of their symptomatic groups; after this work of analysis, we should gather the fragments together and re-form from them the entire disease. Viewed in its *ensemble*, hysteria has too many individual phenomena and difficulties for us to seize the particular one in general. This plan, more than disputable if we apply it to diseases limited as to time, space, and locality, and as to the modality of phenomena, here finds its legitimate employment.

The digestive disturbances coming on during the course of hysteria are numerous. They consist in repeated and, at times, almost uncontrollable attacks of vomiting, in gastric pains, hematemesis, attacks of constipation or diarrhœa,—peculiar either in their evolution or in some of their characteristics. Among the serious symptoms, the vomiting of blood has especially attracted the attention of physicians; gastralgias—phenomena purely subjective—are little understood; and intestinal disturbances are still left a matter of much uncertainty. Among the more interesting of these are the odd perversions of appetite, of which there are superabundant examples and varieties almost innumerable. In relating singular facts in cases of strange appetites, we always neglect to study the true condition of the patient, and are reduced to the unproductive idea that hysterical patients are subject to the most improbable disorders of the digestive functions.

My object at this time is to allude to one of the forms of hysteria of gastric origin, so frequent that a description may not seem necessary, such a case being sufficiently common and constant in its symptoms, as most physicians of experience could affirm. The name of anorexia may perhaps be replaced by that of hysterical inanition, which would better represent the most striking symptom. I have chosen, without otherwise defending it, the first term precisely because it is connected to a phenomenology less superficial, more delicate, and also more medical.

Of the various periods which compose digestion, the best analyzed by the patients and least studied by physicians is certainly that of the appetite. In certain cases the appetite is suppressed without the patient experiencing any other sensation than the regret of being deprived of an excitant which invites him to nourishment. It does not arise from repugnance, and often the proverb, "Who wishes an appetite, it will come by eating," is found to be true. Under other conditions, the patient experiences a more or less acute repulsion for certain foods. Under others, finally, all alimentary substances, whatever they may be, provoke disgust. As general as the inappetence may be, it has always a graduated scale, and foods are not indiscriminately repulsed with a like insistance.

There are, on the contrary, affections, perhaps, either of the central nervous system, localized or diathetic, which are accompanied by an illusory appetitive sensation, returning at unequal or quasi-regular intervals. In some hysterical patients, we observe those false, exacting appetites, imperious to the same degree as seen in certain diabetic patients. Almost always, the patients, obeying a theoretical hypothesis, start off with the idea that their indisposition is due to inanition, and that they will succeed in driving it off by means of some nourishment, however small in quantity it may be. Experience shows that in these cases two drops of laudanum will serve better to appease imaginary hunger than the ingestion of food. With the exaggerated sensation of appetite is the supposition that nourishment will calm the want, answering in an inverse sense a diminished appetite, and the conviction that alimentation will be injurious. The patient acts from thence, as in the first case, conformably to an instinctive hypothesis. Docile, desirous of being relieved from her troubles, she acquires the certainty that her health increases more by continuing alimentation, freed from suffer-

*M. La Faure, M.D., Paris, in *Massachusetts Medical Journal*, July, 1896.

ing, that her apprehensions were ill-founded. Indocile, anxious before all of avoiding a hypothetical pain, but alarmed from the start, she maintains her mode of treatment and abstains from eating. Such are the cases of hysteria which I intend to touch on and trace their history.

A young girl, between fifteen and twenty years of age, experiences some strong emotion. She experiences from thenceforth, after meals, vague sensations of fullness; anguish; gastralgia; *post prandium*, or rather following from the commencement of the meal. Neither the patient nor her friends attach any importance to it; no lasting inconvenience results from it. The next day the same sensation is repeated, and it continues still trifling but lasts for several hours. The patient makes up her mind that the best remedy for this indefinable *malaise* or painful sensation, consists in taking less food. Up to this point there is nothing extraordinary; it is not the patient suffering from gastralgia who may give way to this temptation, up to the time where she acquires the certainty that her relative inanition is not only without profit, but that it aggravates her sufferings. Among hysterical patients the state of affairs is different. Little by little she reduces her nourishment, feigning sometimes a headache, sometimes a momentary disgust, sometimes for fear that the painful after-meal impressions may be repeated. At the end of some weeks these are no longer supposed transient repugnances; there is a refusal to partake of food, which may be prolonged indefinitely. The disease is declared, and it follows so fatal a march that it becomes easy to prognosticate its future.

Unhappy the physician who, not recognizing the peril, treats the fancies without ability, or treats the obstinacy of the patient, which he hopes to conquer, by medicines and friendly advice, by threats or attempts at intimidation. With the hysterical patient a first medical mistake is never reparable. Ever on the lookout for opinions concerning themselves, of those especially with which their family is associated, they never pardon them, and considering that the physician has commenced the hostilities, the patient gives herself the right to continue them with an implacable tenacity. At this initial period, the only wise conduct to observe is to hold one's tongue, and to remember that, when voluntary inanition dates for several weeks back, it has become a pathological condition.

It is important, in order to appreciate the various elements which co-operate at the commencement of the disease, to submit each one of them to a minute analysis. The gastric pain, which is, or which appears to be, the starting point of the symptoms, especially merits attention. It varies in intensity from a confused feeling of pressure, up to a sort of stomachal cramp, accompanied by faintness, pallor, sweats, or even chills; no vomiting, no real wish to vomit, even in extreme cases; only the patient pretends that a degree more of it would provoke vomiting. To rely on appearances, the painful cases differ in nothing from those that we have such frequent occasion to observe in all the affections of the digestive apparatus. It is alimentation which brings them about; they do not take place except from eating.

The painful sensation exists not only at the time of taking food, but it persists more or less sensibly in the interval between meals; sometimes it is insignificant, sometimes more troublesome; at times so slight that the patient suspects a general *malaise* without being able to assign it a fixed point. Whatever then may be its form, its seat, and its degree, is the painful sensation due to a stomachal lesion, or is it only the reflex expression of a perversion of the central nervous system?

We find, at the beginning of a great number of cerebro-spinal diseases, præcordial anguish, feeling of pressure, of epigastric contraction, which likewise follow even transient emotions. There is not one of us who may not have felt this sort of anxiety, and connected it to the definite moral cause which produced it. When an individual is suddenly attacked by an epigastric constriction coming on without appreciable cause, the uneasiness is such that it awakens inquietude. The patient asks herself from whence springs this strange impression, and it is often from such an investigation that the mental disturb-

ance of the unfortunate begins. Supposing that the encephalic affection should not end in such serious consequences, the first hypothesis of the patient, and the most natural, is that she suffers from a disease of the stomach. All epigastric anxiety with the semi vertigo that it often brings about after it is exaggerated by alimentation, is a reason, more than ever, to believe in the existence of a gastric irritation. The characteristics of this gastralgia of a reflex cause are not impossible to discern, the circumstances under which we meet it being by no means rare.

It is distinguished from painful irritation of the stomach because it is not exactly localized, and that there is added to it a wholly special uneasiness; because it comes on suddenly, and has not been preceded by gradually increasing disturbances of digestion; and that it is not, besides, followed by dyspeptic symptoms; because the intestinal functions remain intact, except an habitual constipation, which is easily overcome; because the nature of aliments is without influence regarding it; and, finally, because the manner of the pain. when it exists in reality, is not analogous with the gastric sufferings occasioned by a lesion as superficial as it may be. From the moment when we are certain of the nature of the indisposition, we have made important progress in the establishment of the diagnosis.

The hysterical patient, after some waverings of short duration, does not hesitate to affirm that the only chance of relief which can be acquired by her consists in abstaining from food. It is a fact that remedies appropriate in other gastralgias are absolutely inefficient, with whatever zeal the physician and the patient may employ them. A reason of another order from that which always plays a preponderant part in hysteria still interposes. The patient has lost the sensation of appetite, and it will be necessary for her to consent to eat, to overcome her fear of pain, without being solicited or even encouraged by an appetite for nourishment; in abstaining from it, she satisfies to the contrary two inclinations at the same time, all hysterical manifestations, if they exist, are suspended, leaving the first phase. The patient, far from being weakened, of being melancholy, exhibits a sort of alacrity which is not usual to her; we might almost say that she takes her precautions for future periods, and that she prepares arguments which she will not fail to use.

The repugnance to eating follows its slow progressive march. The meals are reduced more and more, in general to only one meal, that may be the breakfast or dinner. Almost always the patient necessarily suppresses one of the species of foods, bread, meat, certain vegetables. Sometimes she consents to replace one food by another, to which she takes with an exclusive predeliction for the space of some weeks, bread, for example, by biscuits or by crackers, after which she leaves the aforesaid article of food off in order to replace it or not by some other article of diet.

This state of affairs is prolonged thus for weeks and months, without the general health appearing to be unfavorably influenced; the tongue is clean and fresh-looking; there is no thirst; the persistent constipation gives way to slight laxatives; the belly is not retracted; sleep is more or less regular. There is no emaciation, although the nourishment represents only the tenth of the patient's accustomed regimen.

We know too well the strength of resistance of the general health among hysterical patients to be astonished to see them support without apparent damage a systematic inanition, to which robust women could not expose themselves with impunity. It is necessary, besides, to consider that the diminution of food is made by degrees and without abruptness. Now, the economy is habituated more easily than it would seem to this decrease of alimentation.

Another fact, likewise acquired, is that far from breaking down the muscular forces, the diminution of nourishment tends to increase the aptitude for movement. The patient continues to feel more active, lighter, she rides horseback, undertakes long journeys on foot, she receives and makes visits, and undertakes the cares of a fatiguing worldly-minded life, without complaining of the lassitudes of which she might have complained at other times; no visible signs of chlorosis or anemia exist, at least one would not feel authorized to

say that inanition has provoked them, for the majority of these patients are already more or less chloro-anemic.

If the situation does not vary, regarding the anorexia and refusal to eat, the disposition of the patient is modified to a degree that the disease is prolonged, and to the same degree the mental condition of the hysterical patient is made worse.

The physician, if he has promised a rapid improvement, or if he is suspected of unkindness by the patient, has long before this lost his moral authority; nevertheless the patient rarely ever refuses to take some medicine. As she is opposed to nourishment as much as she shows herself willing to take the least attractive remedies. I have seen those who would even swallow pieces of rhubarb, and who would not have, at any price, decided to taste a veal cutlet. The most active gastric stimulants, mild or drastic purgatives and digestive mineral waters would be taken without either injurious or useful effects. It was the same case with diffusible stimulants, fragrant gums, valerian, hydrotherapy, baths of various temperatures, various tonics of iron, cutaneous derivatives, etc. Laxatives alone were useful for preventing constipation, other agents would not produce the least effect on the anorexia.

When, after several months, the family physician and friends, seeing the uselessness of persisting after all their efforts, begin to be uneasy, the mental perversion comes on, which by itself alone is almost characteristic, and which justifies the name, that I have proposed for want of a better one, of *hysterical anorexia.*

The family can beg or threaten, and both serve as a touchstone. They multiply the delicacies of the table in the hope of awakening her appetite; the more their solicitude increases, the more her appetite diminishes. The patient disdainfully tastes the new dishes, and having thus shown her good will, considers herself under no further obligations. It is a well-known law, and conforms with the experience of all, that the best means of increasing the stubborness of hysterical patients is to allow them to hear the supposition implicitly or explicitly expressed that if they wished they could control their sickly impulses, a single concession will make them pass from the condition of patients to that of capricious children, and this concession, half from instinct, half from the part taken, they will never consent to. The anorexia becomes by degrees the only object of pre-occupation and conversation. It forms thus a kind of atmosphere around the patient which envelops her, and from which she cannot escape at any hour of the day.

To protest that the patient cannot live on a quantity of food which would not suffice for a small child, she answers that her nourishment is sufficient for her; and besides, she has neither changed nor become thin; no one has ever seen her refuse a task or show fatigue; she knows better than anyone what is necessary for her; and besides it would be impossible to tolerate a more abundant diet.

Then the inanition will bring on at length a disease of the stomach. The hysterical patient answers that she has never been better, that she does not suffer, and that similar fears are contradicted by her being well.

At this period the pains of the first stage are palliated or dissipated; if they reappear it is only at long intervals or in proportions easily tolerated—still an argument in favor of diet to which the patient gives credit for her amelioration.

The fast, besides, is not absolute, and has nothing in common with the refusal of foods by melancholy patients. The anorexia is not aggravated, and especially is not changed into a disgust similar to that which some phthisical and also many cancerous patients experience.

The patient assists willingly at meals with the family under the conditions that she is left free to eat as she pleases.

That which dominates in the mental condition of the hysterical patient is, above all, a certain quietness, I may say almost a pathological true contentment. Not only does she not sigh after her cure, but she delights in her condition, notwithstanding all the vexations it stirs up for her. In comparing this satisfied assurance to the obstinacy of the insane I do not believe it exceeds it in measure. When we view all the other anorexias we shall see how much they differ.

Even with a strong repugnance a cancerous patient hopes and solicits a food which awakens the appetite, he is ready for every attempt, though incapable of overcoming his disgust. The dyspeptic, without organic lesion, put his wits to work in order to vary his diets to aid himself by all the means in his power, complaining with habitual bitterness of those who suffer from the stomach. Here nothing of the kind; on the contrary, an impregnable optimism, against which supplications and threats alike are broken. I am not suffering, I am very well: such is the monotonous formula which has replaced the preceding one,—I cannot eat because I suffer. This expression I have heard repeated so many times by patients that now they represent to me a symptom, almost a sign.

If I attach to the mental condition an importance which may perhaps appear exaggerated, it is that all the disease is recapitulated in this intellectual perversion; suppress it, you have an injurious affection destined to give way at length to proper methods of treatment; carry it to extremes, and you will never go too far, you have a dyspepsia without parallel, which follows a foreseen course and which cannot be overcome by the usual means.

I do not think, besides, that the gastric hysteria would make, in this connection, an exception; in the other hysterical localizations we find at least an equal indifference, as unmanageable or as painful as the symptoms may appear. The hysterical patient, with a convulsive cough, does not insist that we shall free her from an irritant and at times ridiculous spasm; she complains in consonance with those who complain, but when we try to actively contend against the disease, she assists our treatment more from recklessness than from zeal.

It is the same with paraplegic patients condemned to absolute rest, and who consent to live in this way without requiring fatigue from the physician by useless attempts that he might resort to as heroic means.

PERISCOPE.

A birth through a central rupture of the perineum, a very rare complication of labor, is reported in the *British Medical Journal*. The mother was a primipara, aged twenty-six. The membranes ruptured eleven hours after the beginning of labor, and then the head, presenting in the first position, bore down on the perineum. After a time the midwife made an incision on each side, about a third of an inch deep. In protecting the perineum with the hand she felt something like a hemorrhoid protruding, but on inspection it proved to be the nose and part of the face of the fetus. A pain followed, and the whole head was delivered through the same opening, which was seen to be behind the unlacerated posterior commissure and in front of the anal ring. The body came out during the next pain, twelve hours from the beginning of labor. Ten minutes later the after-birth was expelled through the same unnatural aperture. The child was a male, weighing eight pounds, and measuring nearly twenty inches. The mother's perineum was examined; a large rent, actually wider than the vulvular cleft, was seen. The anal ring and rectum were not involved. The posterior commissure formed a bridge of flesh not an inch broad when gently stretched. The tissues bounding the rent were badly bruised, and the posterior vaginal column remained untorn, so that there were two openings in the vagina leading to the unnatural canal in the perineum. There was also laceration of the valve close behind the urinary meatus. The perineal rent was closed directly after labor, the bruised tissues being first trimmed away; but a second perineorrhaphy was required a fortnight later, and ultimately a small vagino-perineal fistula remained.

The normal climacteric may be attended by mild or moderately severe symptoms, usually nervous phenomena, according to Dr. Homer C. Bloom, in the *University Medical Magazine*. He claims, from the examination of 400 cases in six years, that it is a function that is passing away, and says that it has nothing to do in itself with originating organic disease, nor is it responsible for the ills of matronhood, but frequently, owing to the fact that the coincident intense nervous phenomena mask other less pronounced symptoms, and because of the common delusion that all conditions at this time are consequent upon the change of life, organic disease is often overlooked. As a physiologic condition nearing its end, there should be no menorrhagia

nor increased menses, and any discharge over and above the normal amount demands an immediate digital examination. The length of time in which women suffer from menopausal phenomena varies greatly. Where the discharge is brought about abruptly, they are longer and more intense; when there is a dodging period covering a year or two, the symptoms are milder and the phenomena cease more quickly. An average of two years covers the duration of the usual symptoms attending the climacteric. The average age when menstruation ceased in this series of cases was forty-three years and eight months. The oldest woman in the series to complete her menstrual life was fifty-four; the youngest to reach this point was twenty-nine; the average puberty was fourteen years and three months, the youngest woman reaching puberty at ten years, the oldest being a little over eighteen years. The average menstrual life was twenty-nine years and three months. Nationality in these cases establishes the old truth that puberty is sooner reached in warm climates, and that the negro woman from the South gave a history of earlier puberty; also that there is no positive relation between early puberty and a late menopause.

A case of perfect placenta previa centralis, a very rare occurrence, is reported by Duloroy, the report being abstracted in the *British Medical Journal*. The placenta was completely inserted on the inferior segment of the uterus, so that the os was closed and the edge of the placenta could not be reached. Hemorrhage, as might be expected, was most alarming. The patient was aged thirty, and in her fourth pregnancy. Hemorrhage set in on April 25, 1895, and continued. On May 17th a bleeding elastic mass filled the upper part of the vagina. No part of the fetus could be felt. On abdominal palpation the head was found presenting; but not engaged in the pelvis. After plugging and various palliative measures, labor set in on May 24th, 11 P.M. By 2 A.M. the os was wide enough to allow of version. A jet of blood, as though from a big tap, issued from the vagina just before the hand was introduced. Turning was successfully performed, and the uterus contracted vigorously, cramping Duloroy's hand, yet effectually checking hemorrhage. The infant remained in a state of suspended animation for an hour. After its expulsion the uterine hemorrhage ceased entirely. The mother was well in three weeks, when the child was in perfect health. The most scrupulous antiseptic precautions were used at and after the labor. Pinard notes that perfect placenta previa centralis, where the centre of the placenta actually occupies the central point of the os, is extremely uncommon. He firmly believes that insertion on the lower segment of the uterus may be explained by the concussion of railway traveling during the first weeks after conception. Duloroy's patient was a laundress, and he thinks that the movements of the body in the exercise of her vocation may have brought about the vicious insertion of the placenta. The perineum was luckily torn in this case, allowing a rapid extraction of the fetus when the bleeding was simply appalling, even to an expert.

The ultimate etiology of deformity, and its practical application, was discussed at the American Orthopedic Association by Dr. Doyle Whitman. It is well-known that the erect posture is comparatively recently acquired. In the process of evolution and adaptation, those structures whose function had been lost were subject to degeneration and disease, and those functions most recently acquired were most susceptible to weakness and injury. The erect attitude was difficult of acquirement, as shown in the effort of the infant to stand; it was also an attitude difficult to maintain against the force of gravity, and especially so if the structure of the body was in any way weakened. The ordinary so-called postural deformities were then explained. The flexion and contraction deformities were, however, of special interest to the orthopedic surgeon. None of the theories that had been advanced to explain this universal flexion was satisfactory, but if one accepted the morphological standpoint, it would be evident that as the erect posture was a newly acquired attitude, so also the uses of the limbs proper to that posture were newly acquired. Complete extension of the limb in the support of this posture required not only the greatest expenditure of nervous energy, but also the greatest strain upon the joint-surfaces, and when the ability to assume this attitude became impaired, the affected member became flexed—in other words, it involuntarily assumed an attitude common to the lower or quadrupedal form of locomotion. Flexion, whether as the result of painful joint disease, or in hemiplegic deformity, was usually an evidence of unbalanced nervous influence and of preponderance of power of its lower or reflex centers. In joint-disease, the cause was local irritation and consequent muscular spasm; in the second, the inhibitory influence of the higher center was impaired or removed. The erect posture was an evidence of the higher position of man in the scale of evolution; a position due solely to the greater development of the higher centers of the brain. When the stimulation and controlling force of the higher center was directly or indirectly impaired, the more difficult and newly acquired attitudes were disused, and the affected part fell backward toward the type from which it had been differentiated.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2061. SATURDAY, SEPTEMBER 5, 1896. VOL. LXXV—No. 10

ORIGINAL ARTICLES.

A CLINICAL REPORT ON THE USE OF TESTICULAR FLUID INJECTIONS.*

F. SAVARY PEARCE, M.D., PHILADELPHIA.

The subject of organo-therapy, like serum-therapy, has been brought to a base line of its proper sphere in medicine just as the Röntgen rays will gravitate.

The administration of thyroid extract in sporadic cretinism and myxedema gives, perhaps, the clearest demonstration to the perception of any of these agents. Gull's and Ord's great pieces of clinical work in describing this widespread mucoid degeneration is now challenged by the ingenious minds, (Horsley, Brown-Séquard, etc.,) that have worked out the cause and means of alleviating the malady. The use of extract of supra-renal bodies in Addison's disease has been favorably reported upon by such observers as Osler. In any event, organo-therapy can but aid disease transiently.

The evidence in thymus and splenic therapy is as yet contradictory. Bone-marrow has proven efficacious in the pernicious anemias. The whole field is pregnant with interesting food for thought. A subject with a high amputation of the thigh, perhaps, only escapes a persistent post-operation anemia because an equal quantity of other bodily tissues are removed at the time of operation. The nervous effects which sometimes immediately follow castration "suggest the suspicion that with the testes the system may lose some tonic effect exerted by these organs" (Dr. A. F. Cabot of Boston).

The above instances in organo-therapy maintain what is practically the exhaustion theory of the older writers, and *per contra* what amounts to the retention theory, or rather over-production possibility, is demonstrated pretty conclusively in exophthalmic goitre. Dr. M. Allen Starr, in a recent contribution, forcibly upholds this view. *Per contra* in an article in the *Deutsche Med. Zeitung*, by Dr. Fletcher, 75 per cent. of the cases of Basedow's disease treated with thyroid extract are reported recovered.

In seeking the *post hoc ergo propter hoc*, more and more has been learned of the functions of the testes. It seems rational that there are two secretions from these glands: one going into the

*Read before the Medical Society of Pennsylvania, May 20, 1896.

system, producing the physiological glow of moderate, chaste or controlled sexual excitement, the second being of course the semen, with its contained spermatozoa for regeneration. Thus, while the thyroid has one secretion (a ductless gland) and the thymus, the spleen, and the supra-renal and pituitary bodies have a similar internal secretion, no doubt; there is reason in supposing that feeding the tissues of an individual deficient in any one of them may be of service. So, too, testicular secretion may assist to buoy up a low tide of vitality and thus add to the normal body component. It must, indeed, take but a very small bulk amount of lessening of the supra-renal secretion to set up the great bodily metabolic change seen in that fatal dyscrasia, Addison's disease.

If known better, these apparently slight disturbances, no doubt, are the causes of many of man's diurnal indispositions. The auto-bacterial, the ptomain and the leucomain causes of disease become clearer as this broader view is admitted as a possibility; yes, as demonstrable facts in many cases of intestinal infection.

The literature of Brown-Séquard treatment has been (1) guesswork, (2) clinical experience and (3) scientific research. In the latter may be stated the findings of Poehl and Bubis as regards sperminum, a more widely distributed substance, (being found in the testicles, ovaries, thyroid gland, pancreas and spleen), which leads to the belief that the testicles are not the only source from which the dynamogenic agent producing cord stimulation, etc., is derived. We cannot, therefore, subscribe to such clauses as "organic extracts are physiologically inert and therapeutically worthless." These statements are the earnest attempt to put down the flagrant misuse of this class of remedies, and the object of this contribution is to state the therapeutic evidence as it appeared in an extended observation over several years in the private practice and in the clinical service of Dr. S. Weir Mitchell at the Infirmary for Nervous Diseases; in which study, with Dr. John K. Mitchell, it has been my privilege to assist. I am indebted to these gentlemen for permission to report the result.

In all we have made personally some 500 injections of the Brown-Séquard Fluid. Many others have been made by the internes at the hospital.

1. Preparation. Frank E. Morgan, pharmacist, prepared the fluid as follows:—The testicles of healthy bulls were immediately ligated and excised after the killing of the animal. Under antiseptic precautions (the use of carbolic solution), the tunics were carefully removed down to and including the albuginea. The gland was then thoroughly macerated, placed in pure glycerine and allowed to dissolve for forty-eight hours. The whole was then filtered and a small extra amount of the liquid part of residue added, to make a super-saturated solution. The mixture was then sealed in aseptic phials. It takes by this method about one large testicle to make an ounce of solution.

2. Method of Injection. With a sliding-cylinder silver-vacuum syringe, the needle of which is of somewhat larger bore than the ordinary hypodermatic needle, to allow for the free flow of the glycerin mixture, the injections were made in the outside of the upper half of the thigh, or in the deep tissues of the gluteal region (best), and occasionally in the arm. Gentle massage was then given to favor dispersion and prevent local irritation, which is sometimes troublesome. The needle puncture was then covered with antiseptic gauze or cotton. Other things being favorable, the patient was allowed to go about.

3. Frequency of Injections. In the majority of cases, injections were given every other day, alternating the point of puncture from one side to the other. Where the patient could not be long under treatment or where we felt a more marked impression might be made, the injections were given daily.

4. Cases Selected. The choice was not made as to any predetermined class of disease, further than so far as the cure of extreme asthenia the result of nervous maladies was an object point. Asthenia, therefore, presented the indication for relief, and, in consequence, terminal neurasthenias, especially of the sexual type, paralysis agitans and the spinal sclerosis make up the list.

Accounts of twenty-five of the cases treated will be quoted, and I will then

present a summary of the entire number of patients studied during this research.

Case 1. Male, aged fifty, profound neurasthenia for the past four years, the result of "break-down" from overwork. Had been able to do but little work the past three years. Suffered from great prostration and tachycardia. Had had much treatment, of little avail, though in very competent hands. Practically bed-ridden for past year. No organic lesion found. Sensation normal, r.b.c., 4,566,500. Placed on m v<xv. At first the fluid produced general stimulation, which became marked at the end of three weeks. Treatment continued for several months after leaving the city. Letters showed that when he left off the injections, he relapsed.

Case 2. Mrs. H., aged fifty years, paralysis agitans, of nine years' duration, seen by Dr. Mitchell, with Dr. J. H. Musser. She had a general tremor, festinating gait, extreme weakness. B. S. injections three times a week produced a slight general stimulating effect. No relief of tremor; if anything, it was made worse.

Case 3. J. N., aged thirty, salesman. Sexual neurasthenia. Denied tobacco excess or alcohol, and never had venereal infection. Masturbated in his youth. Extreme weakness, easily exhausted, pain in sacral region, nocturnal emissions, excessive confusion of mind, nausea. He lost twenty-four pounds the last two years, despite all remedies used. The patient was given B. S., which in two weeks produced much improvement. He then had a sense of well-being and a less gloomy outlook, and the mind became clearer. His color improved, and after one month, there being no demonstrable effect otherwise shown, the injections were discontinued.

Case 4. A. R., farmer, aged forty-two, incipient myelitis. He had band-like tightenings about the legs and a feeling of a two-inch-wide belt around his abdomen. He had paresthesia of the legs but no anesthesia. No Argyll-Robertson pupil existed, but the knee-jerks were capricious. His sexual power was much lessened. In January, 1895, this man was given forty minims every day for a week; then every other day for the second week, when the following note was made by Dr. S. Weir Mitchell, "clearly bettered as to general stimulation of the cerebro-spinal system." There was especially-marked increase of sexual power even after the first dose, while on the fourth day he volunteered the statement that the sense of well-being seemed greatest and of binding about the waist seemed most relieved about four hours after the injection was given.

It was on the sixth day of treatment that the sexual increase became most pronounced. Some nausea was produced at the end of the week, when the dose was reduced to thirty minims given alternate days, as stated. After this the injections seemed to gradually lose their power for easing his distress. The positive pole of the galvanic current was next tried over the abdomen, but with ill success. The man was taken home, it being evident that the inflammatory cord lesion was progressing. He returned to Philadelphia in the fall of 1895, rapid extension of myelitis having set in, and after complete paraplegia for several weeks with extensive trophic changes, he died February 2, 1896. We found at necropsy wide-spread myelitis extending even up to the cervical cord.

Case 5. An obscure case of A. H. M., aged forty-two years, bookkeeper, with objective and subjective vertigo of some months' duration, the sequel of influenza. This illustrates the failure of B. S. after a fair trial and the cure obtained by the use of increasing doses of iodide of potash. This unique case is reported in the *Philadelphia Polyclinic* for June 15, 1895, and pathologically was probably an insidious meningeal inflammatory lesion.

Case 6. D. F., male, aged twenty-seven, sexual neurasthenia. For three years he had had "bad stomach spells" and anorexia, with "rush of blood to head." He had irritable bladder, frontal headache and vague distress in the vertex. Worried about his greatly-weakened sexual power, and frequent emissions. For six months previous he had been under rest treatment, and for nine weeks was confined strictly to bed. All of this availed nothing, as he said the heat of the bed caused emissions to annoy him the more. When he came for treatment, he had boulimia and grew

faint if he went a few hours without food. He had extreme lassitude with marked emaciation; suffered from insomnia. There were no evidences of organic disease in the man. After other agencies failed, he was given B. S. injections three times a week, but no benefit followed that we could detect.

Case 7. Male, aged twenty-eight. Combined sclerosis. Had had a chancre three years previously, but without secondary manifestations. For the past year had spells of vomiting, headache, with at one time a transient external strabismus. About this time too, he had delusions of believing the house to be on fire, and then fell into general clonic convulsions with unconsciousness. This last development followed a debauch. In the eight months previous to coming marked ataxia presented. His knee jerks were much increased, the contralateral reflex was well marked. Muscle jerks and elbow jerks were increased. He had the Argyll-Robertson pupil, and ataxia of the hands and legs. B. S. injections made him feel stronger and checked his rolling gait. At the end of twelve days the marked beneficial action was stayed. At this time a violent syphilitic exploitation occurred and a roseolar rash appeared with absolutely complete alopecia.

Inunctions of mercurial ointment and increasing doses of bichloride of mercury soon ameliorated this complication, and the hair about as rapidly came in again. This is an example of benefit of the B. S. treatment for a short time in an incurable case. What the injections had to do, if at all, with the specific re-manifestations, does not appear. Its irritant action upon the latent disease, syphilis, may possibly have awakened that poison into activity.

Case 8.—Miss M. D., aged thirty-eight, school teacher. Sexual neurasthenia. Had been under rest treatment eleven months in the Infirmary for Nervous Diseases, all other measures for relief having thus far been futile. Her weight was reduced to 96¼ pounds. She had always been a weakly child, menstruated at fourteen years of age and was a sufferer from amenorrhea and dysmenorrhea. At twenty-one years of age she felt a "sudden snap" in the abdomen. Collapse followed. Several months after admission she admitted having masturbated, which may have explained the phenomenon mentioned. At twenty-five years of age she had had pleurisy and undoubted tubercular scars are now found over the tibiæ. At twenty-nine years of age multiple neurasthenic vagaries, made up the syndrome of her deplorable symptoms; such as anorexia, insomnia, backache, palpitation, head-distress constipation. At this time too she was placed in a New York Hospital for anteversion of the womb, and wore a Thomas cup and stem pessary. Later she changed to a ring pessary; all with but little relief. In fact every known measure had been resorted to and the case seemed hopeless for the past decade. She was placed, during the summer, by Dr. F. X. Dercum, on a pill of silver nitrate and ext. hyoscyamus, ¼ grain of each, and later upon strychnia and chiretta. These temporarily helped the patient. She was finally placed on B. S. injections three times a week, and declared her "all gone" feeling, head distress and morbid fears were lessened after the second treatment. The interne noted that upon the whole she was much improved by the injections at the end of the month. They were then discontinued for a time and again used, in order to study the effect of the remedy more thoroughly. After nine months' treatment the patient volunteered the statement that nothing did her so much good as the injections. This was a fair test and decision. The next oncoming interne made a note that pseudo injections of aquæ puræ given *solatii causa* acted as well as the B. S. fluid. Personal equation must be admitted in accounting for this statement. As in judging any other remedy we may have our unconscious prejudices; for this reason the case is given *in extenso*, the final judgment being that the Brown-Séquard injections were for temporary good in this incurable neurasthenic woman.

Case 9. J. D., male, aged forty-five. Non-specific bulbar palsy, late stage. Seven injections produced no sense of stimulation, although his general condition and physiognomy improved very much.

Case 10. F. B., male, aged thirty-five. Paralysis agitans, late stage.

Weight, 121½ pounds. The man was first put on five grains thyroid extract three times a day. This did not affect the pulse or temperature perceptibly, but aggravated the tremor. He was permitted to go without treatment until he returned to his former state. He was then placed on B. S. injections. After the second one it was noted "tremor is less, feels stronger, and sleeps better." The injections were continued three times a week, dose thirty minims, up to the time of his discharge from the hospital at the end of ten weeks. He went out able to walk much better than when admitted. The tremor was not on the whole improved. It is doubtful in this case if the rest in the ward was not the chief means of bettering the patient's condition. Hyoscyamus was among the many remedies that failed *in toto*.

Case 11. Miss E. G., aged forty. Terminal neurasthenia, sciatica, etc. She was always a feeble child; later nursed her invalid mother for eleven years, and finally broke down completely after her death. This woman had been under the care of competent physicians in Ohio and no relief resulted. A cachexia made us suspicious of cancer. Her sciatic nerves were stretched by Dr. W.W. Keen, relieving persistent sciaticas; but the syndrome of anemia, nausea, palpitation, crying spells, resisted every measure adopted, including lavage directed towards the chronic dyspeptic symptoms. The patient was given B. S. injections for a time and insisted upon a sense of well-being soon after and the day following each injection; especially of a lessening of the sciatic pain "twinges." Her pulse certainly became fuller for the time. She was sent to the Presbyterian Hospital convalescent home. I am informed the woman died and diffuse carcinoma of the stomach, undemonstrable by palpation during life, was discovered at the autopsy.

Cases 12 and 13. Of late stages of insular sclerosis; derived no benefit whatever from testicular injections.

Case 14. Aged sixty, incipient lateral sclerosis, with spastic gait and greatly increased reflexes everywhere. After the seventh injection asserted that she could "lift feet better." The improvement here was subjective only and lasted but a few weeks. This was a case in which the B. S. produced decided irritation but no abscess.

Case 15. J. W., aged forty-three, colored barber, with some white blood in his veins; a case of locomotor ataxia in the early stage. He had had syphilis ten years previous. General nutrition fair; station and gait not markedly abnormal; no Romberg sympton. The knee-jerks were absent and not reinforcible. There was slight girdle sensation and there was difficulty in ascending stairs. There was paresthesia of the extremities and pin-point Argyll-Robertson pupils. He was placed on bichloride of mercury for a short period, and then on the Brown-Séquard injections. This man suffered more from general lassitude and backache while at work on his feet. He took twenty-four injections at two different times at the clinic and insisted upon feeling stimulated to his work during the treatment. There was no noted objective improvement, and at no time was there sexual return. This man was for a time also given an equal quantity of aquæ puræ which the resident thought did him as much good as the B. S. Recently the patient has again been receiving the injections in his arm and I examined him at his work to-day (May 19, 1896), when he reaffirms the feeling of general stimulation and is doing long hours of duty daily with more ease than he did one year ago, when first seen.

Case 16. Male, aged sixty. Ataxia, well advanced, second stage. Knee jerks absent for five years. Romberg symptom marked; pupils did not respond to light and but moderately to accommodation. He had but little pain or girdle sense, but complained of great weakness of the extensors of the thighs, so that it is with great difficulty he mounted the stairs. B. S. injections were absolutely without noticeable effect. This is the first case in which we had an abscess developed.

Case 17. A. B., male, aged twenty-five. Ataxia, late stage. He presented anomalous throat crises. His pupils were inactive, and Dr. G. E. DeSchweinitz reported the optic discs to be normal. Dr. J. Solis-Cohen reported paresis of the left vocal band muscles. Queer choking

attacks (eight or ten in all) would last about ten minutes, and the man was in danger of death at the time. He was in a truly pitiable paretic condition. During these throat crises it was observed that he acted much like a croupy child, with the addition of the extreme pain mentioned. This man had twenty injections of B. S. with but little effect, when it was abandoned. It is doubtful if anything could be of service in such a case.

Case 18. H. S., aged forty-nine, Hebrew clothier. Locomotor ataxia, of anomalous type, in that he had no ataxia and no girdle sense, but for six years had had shooting pains in his legs, sometimes in one, sometimes in the other, sometimes in both at once. His knee jerks were absent, and Dr. Thomson examined the eyes and reported vision perfect. No fundus lesion was found. His pupils were pin point in size; their reaction was *nil*. He had severe left temporal pain, present night and day, and for this and the insomnia existing he had been and is taking large doses of paraldehyde with occasionally morphia, which made him extremely constipated. The B. S. injections had absolutely no effect on the pain, and during its use the patient became more distressed and bowels even more torpid. Indeed, the pain seemed to be aggravated by the irritation produced around the seat of needle puncture.

Case 19. A. B., aged forty-eight. Ataxia, late stage; height was six feet, and weight 175 pounds. He denies syphilis and has not been an alcoholic. Complained for twenty years. Has been recently glassed under the care of Dr. Knapp. His knee jerks and elbow jerks are absent. He is very unsteady in his gait and sways badly when standing with his eyes closed. He has transient stabbing pains, chiefly at night. He is impotent; appetite is good, but bowels very costive. B. S. injections three times a week caused very marked stimulation of the sexual function, so that the man had erections, which was rare for him.

Case 20. S. M. F., aged forty-three, superintendent of an iron works. Incipient ataxia. He has two healthy children and denies having had syphilis. He dates his trouble from twelve years ago, when he was a sufferer from nervous prostration, the result of overwork. In the past year he has been complaining of pain all over his body, at times like "flowing lava," at other times it is dull. He is never free from pain. Some months ago he had diplopia, which has now disappeared, but he has the Argyll-Robertson pupil. Knee jerks are absent. There are no palsies. Gait and station are fairly good. Dr. C. A. Currie, of Germantown, with whom the patient was seen with Dr. Mitchell, writes that he gave the man fifty-one injections from April 17th to November 3, 1894, on alternate days. It was not used for a time during this period. The final report is as follows: "twenty-five minims acted as well as more in this case. Taken altogether, he has been more free from pain, which is more limited to his right arm. One peculiarity which has been noticed, not only in this case, but in two others, has been the fact that the injection itself has caused more burning pain in one side than when given in the other. In this case it has been the right side, whether given in the arm or thigh. The first twenty-five injections were given in the arm; the remainder in the thighs."

Case 21. S. E., aged fifty, Hebrew. Ataxia, well advanced, second stage of the disease. He has always been a hard-working business man, financially successful. He has never had syphilis. He has been treating for so-called rheumatism for the past five years. Dr. De Schweinitz reported beginning optic atrophy; Argyll-Robertson pupils. His standing posture and gait were bad; his knee-jerks were absent; he had much shooting pain in the legs and suffered from persistent insomnia. This man had been put on increasing doses of strychnia by Dr. J. K. Mitchell, up to three-fifths of a grain daily. When we started the B. S. injections he was given fifteen minims daily. At once he spoke of the general stimulation following shortly after a treatment. He began to walk better; there was improvement in the pain in his legs, in his sleep, and in his station. His strength improved very much. He went to his home in the West a few weeks later, with instructions to continue the remedy, which he has carried out with benefit.

Case 22. J. E. W., locomotor ataxia,

sudden onset. (Locomotor ataxia in wife.) This rapidly developing case was reported in the *Journal of Nervous and Mental Diseases* for January 1895. The B. S. injections helped him for a time. At the fourth treatment he certainly was much stronger than before. He had a wet dream that night, unusual for him, and forced his urine better than formerly. At the end of three weeks he developed a severe diarrhea and nausea, the result of thirty minims of the fluid given three times a week. After a time the remedy lost its former good effects. The patient was discharged with orders to, after a time, continue it. In the interval, bichloride of mercury and iodide of potash were prescribed which produced no demonstrable good. Recently he has been taking some nitro-glycerin preparation. This man I examined to-day, and have re-prescribed the remedy, with the hope of temporarily stimulating him to renewed gain, as it had acted so well in the beginning. He is holding his own.

Case 23. A. H., aged forty-two, ataxia, paralytic state. He broke down in 1887 and later was able to be on half duty in a large business for two years, since which time he has been helpless. He presented a typical case of a late stage of the disorder. Had severe lightning pains in the limbs for which he has become addicted to the use of morphia up to 1893, but stopped the habit in September 1894. His sexual power had been *nil* for many years. He had no appetite, was constipated, anemic. Red blood cells numbering 3,300,000, and hemoglobin registering 75 per cent.

Injections as follows:—December 7, 1894, minims twenty; 9th, minims thirty; 12th, minims thirty-five; 14th, minims forty; 17th, minims forty-five; 20th, minims forty-five; 24th, minims fifty; 30th, minims fifty-five; January 2, 1895, minims sixty; and this latter dose was continued until January 24th.

Resumé. After the first injection, there was a sense of sexual stimulation that night, with an erection and seminal emissions, something not had in many years previous. We made this note before the second injection—pulse 112 per minute, and one-half hour after the injection, he felt toned up and the pulse beat recorded 104 per minute and was full in volume. From this on he had "wet dreams" every three or four days during the time of the treatment, given above, and always with erections; which lent much cheerfulness and hopefulness to him in his incurable malady. There can be absolutely no doubt of the effects of the drug *per se* in this case.

Case 24 was a case of prolonged neurasthenia in a professional gentleman, where we had our second abscess develop, and where the remedy did not seem to be of service.

Case 25. Locomotor ataxia, late stage, L. E. F., male. (Notes of Dr. Canby, in charge of the patient for closer observation.)

"(*a.*) January 16, 1894. He began taking injections of B. S. Up to this date had made but little improvement under general treatment. Patient had all the typical signs of the disease. Walked with difficulty; had marked vaso-motor relaxation of vessels of nose and face. The first injection consisted of Mx., B. S. fluid with equal quantity of aquæ puræ, given under strict antiseptic precautions.

(*b.*) January 19th. M. x., B. S., with equal parts of distilled water.

(*c.*) January 22d. M. xv., B. S.

(*d.*) January 24th. M. xv., B. S.

Patient began to show improvement, felt stronger, appetite better, gait less ataxic, had no return of shooting pain in legs since beginning injections. (The weather during this week rainy with easterly winds, such as had formerly greatly distressed him.) Much improvement in vaso-motor relaxation occurred. Electrical reaction of muscles to faradic current became quicker.

(*e.*) January 26th. M. xxv., B. S.

(*f.*) January 28th. M. xxv., B. S.

(*g.*) January 30th. An injection of M. xxx., B. S. was given, with equal parts of sterilized water. This caused considerable restlessness and insomnia.

(*h.*) February 1st. M. xv., B.S. fluid.

(*i.*) February 3d. M. xxv., B. S.

(*j.*) February 5th. M. xxv., B. S.

Previous to injection, patient suffered from eye strains on reading for more than half an hour. Can now read two hours without difficulty.

Previous to taking injections, patient had had no erection for the past eight months. After the fifth injection, feeble

erections took place the following morning and then after each succeeding injection, gradually becoming stronger until February 11, 1894, when the patient thought the erections were nearly normal.

(*k.*) February 7th. M. xxv., B. S. Erection the following morning.

(*l.*) February 9th. M. xxv., B. S. Erection morning of 10th.

(*m.*) February 11th. M. xxv., B. S. Erection next morning.

Patient showed great improvement both in his ataxic and general condition. Vaso-motor relaxation had disappeared. Posture much improved; walks easily and without a cane at night. Electrical relaxation normal."

This man remained under observation indirectly for many months and showed a continuation of his greatly improved health from the incipiency of the treatment which the Brown-Séquard injections had brought about.

Conclusions from an analysis of the above results, with fifteen others not detailed :—

Males treated, thirty; females, ten.

Diseases treated.—Locomotor ataxia and the sclerotic cord diseases; paralysis agitans; neurasthenia, especially of the sexual type.

Injections were given under strict antiseptic precautions in the thigh (best) or buttock. In the 500 injections given we have had but two abscesses. Passive massage of the part should always be done to encourage diffusion and thereby prevent irritation. The average amount of the injection that seems to act most advantageously is between twenty and thirty minims diluted with aquæ puræ.

Time of injections :—Every other day is perhaps most desirable in order to prevent irritation which very often occurs. If pushed, the point of endurance of the testicular fluid is shown by nausea, vomiting or diarrhea.

In the nineteen cases of locomotor ataxia treated, sixteen were in males, of which eleven seemed to be stimulated to at least temporary improvement by the remedy. In five, no result was obtained. In one, injections of water acted the same as the Brown-Séquard injections (psychic). A large proportion of these ataxias were in the advanced stage of the disease and sexual power was much reduced, or, indeed, impotence existed. Of the eleven male ataxic cases improved, the effect was of a general stimulation of the nervous system, described by the patients as a sense of "well-being."

There was an ease of breathing and increase of pulse force as though the respiratory and cardiac centres were buoyed up to more active work. In some ataxics increasing muscular strength and better coördination was attained, those patients being able to endure more exertion. This was especially noted in case twenty-two (male) who persisted that he could feel the stimulation "creep over" him as early as twenty minutes after an injection. He finally had nausea and diarrhea, due to the effects of too large dosage.

Pain was somewhat lessened in three cases of ataxia and along with the general stimulation and bettered coördination in the eleven males quoted, there was in addition in four of them (as seen above) very marked increase of sexual power and general comfort. It may, too, transiently open more widely the blood-paths about a sclerosed area and thus produce the tendency toward cure noted.

The above series of ataxic cases present positive results. The remaining cases did not carry out the treatment, or else it proved inefficacious, in both of which instances they are classed together as failures.

From the above cases it cannot be concluded that the effect of the testicular extract is to mainly produce sexual increase, but rather that the sexual excitation falls in line only, with the general cerebro-spinal stimulation; but not always so.

Some indeterminate individual defect in constructive metabolism probably accounts for the inaction in those special cases; or else the sexual centres in the cord are much more depressed in functionating than we know.

What is most clear in any of these cases in which we have used the drug is that a general stimulation is the most frequent method of its use for good.

Dr. Mitchell recalls in addition to the above cases two old men in which B. S. was used, who were much stimulated, and in them, too, the sexual power was

much excited; in one of them so much as to prove annoying and "very inconvenient."

Resumé:—The Brown-Séquard treatment has proven of stimulating and rejuvenating power in disease of chronic nature, where nerve energy is at a low ebb, whether in organic or in the so-called functional neuroses; and these aside from "psychical influence." The effect may be to increase oxidation, or to supply something the body needs, as in other effective organo-therapy, and thus furnish a temporary tonic to the system until equilibrium is established. The testicular juice acts:—

(*a.*) By general cerebro-spinal stimulation, mainly.

(*b.*) It at times relieves pain and crises in organic cord disease.

(*c.*) It may greatly stimulate the sexual function. There can be no claim for it to act as a cure *per se* in any malady. It may prove one of the "aids" toward recovery from the vicious circle of disease. Cases cannot be selected for anticipated good from the treatment. By accident and experimentation only, may a case be found which proves its great efficacy, and it then buoys the patient up and paves the way for other therapeusis to take hold.

It is not intended to laud the remedy, but to present the clinical evidence of its limited usefulness in disease.

REFERENCES.

1. *Australian Medical Journal*, February 13, 1894, "Brown-Séquard Treatment in Locomotor Ataxia."
2. Dr. Bubis "Sperminum" *St. Petersburgher Medicinische, Wochenschrift*, 1894. Nos. 9, S. 73; 10, S. 83; 11, S. 93, and 12, S. 105.
3. *Therapeutische Monatschrift*, January, 1896, "Sperminum."
4. "The Brown-Séquard Method," *New York Therapeutic Review* for April, May and June, 1894. By Paul Gibier, M.D.
5. Loc. cit. Vol. I, No. 2, 1893.
6. Dr. G. E. Kreiger, "Spermine," *Chicago Medical Recorder* for April, June and October, 1894.
7. Drs. Orka Zoth and Fritz Pregl in *Pfleugers Archives*.
8. Dr. G. M. Hammond, *New York Post-Graduate*, New York, January 16, 1893, and in *Medical Journal*, August 13, 1889.
9. Gasset on "Brown-Séquard method in Obstinate Constipation and Neurasthenia," in *La France Medical* for February 2, 1894.
10. Dr. F. Winslow on "Locomotor Ataxia, Treated by Phosphatic Injections," in the *London Lancet* of Vol. II—1246, 1893.

STRICTURE OF THE RECTUM.

R. W. STEWART, M.D.,† PITTSBURGH, PA.

The following case presents some unusual difficulties in treatment, the method of overcoming which may prove instructive.

Mrs. E. S. was referred to me for treatment by Dr. Mercur. She gave a history of having suffered for six or seven years from constipation. She had previously suffered from ulceration of the rectum, which was probably of syphilitic origin, although no history of syphilis could be obtained. About a year and a half ago, her uterus, tubes, and ovaries were removed *per vaginum*, partly under the supposition that the constipation she was suffering from was due to the pressure against the rectum of a retroflexed uterus. Her general health improved after the operation and she gained in weight; but the constipation remained unrelieved; in fact steadily increased so that an evacuation of the bowels was an operation that required all the tact of the patient, and all the resources of the materia medica.

An examination showed a stricture, caused by a cicatricial deposit on the right anterior portion of the bowel. The stricture was situated about four inches from the anus, too high for the finger to be inserted into it, although by bimanual examination an ill-defined mass could be touched with the tip of the finger. This mass was composed partly of the cicatricial tissue referred to, and partly of a fecal accumulation that was lodged above the stricture.

†Surgeon to Mercy Hospital.

By no manner of means could a bougie, either rectal or urethral, be insinuated through the stricture. An attempt was made with the aid of a Kelly speculum and headlight illumination, to pass a bougie, but this attempt, like its predecessors, failed.

After all hopes of penetrating the stricture by this means had been abandoned, the only alternative that presented itself was by operative interference, to which the patient readily assented.

In considering the operative procedure to be adopted, there seemed but two courses to pursue; first, to attack the stricture directly by a Kraske's operation, or some modification of it; but as this would probably be followed by a fistulous tract, and the subsequent treatment in maintaining the patency of the bowel would be tedious, I decided on the second method, namely, to bring down the sigmoid flexure and form an anastomosis between it and the rectum at a point below the site of the stricture, thus eliminating the diseased portion of the bowel from functionating, by diverting the feces from their natural channel. I fully realized that the necessary manipulations would have to be carried on in the deeper portion of the pelvis, but by using the Murphy button the difficulty did not seem to be great.

Accordingly, on April 16th, the patient being in the Trendelenberg position, I opened the abdominal cavity by a median incision and drew the sigmoid flexure out of the wound. A point was then selected where this portion of the bowel could be approximated to the rectum and was opened sufficiently to admit one half of the Murphy button.

An assistant then passed into the rectum the other half of the button, so held by a long pair of forceps that it was adjusted in proper position to the anterior portion of the rectum immediately below the stricture. This part of the button being felt within the pelvis, an attempt was made to incise the rectum immediately over it in order to complete the anastomosis. Before making this incision it was observed, as should have been anticipated, that the cul-de-sac of Douglas had been obliterated, by the previous removal of the uterus and that the bladder lay in intimate apposition with the anterior wall of the rectum; in fact was so adherent that the separation of the two was impossible. For this reason it was feared that the incision of the rectum might transfix the overlying and adherent bladder, and this is just what happened; the incision over the projecting button permitted the escape of about half an ounce of urine into the pelvic cavity. The bladder wound was immediately sutured, and, as the location of the stricture did not permit of the higher apposition of the button within the rectum, the futility of attempting to complete the anastomosis was apparent.

I was now forced to consider the formation of an artificial anus but as the patient's consent to this disagreeable operation with its disgusting discomforts had not been obtained, I temporized by closing the opening I had made for the Murphy button in the sigmoid flexure, and then fastening that portion of the bowel to the incised parietal peritoneum in such a manner that it lay immediately beneath the centre of the abdominal wound, the latter in turn being closed with the exception of its central portion which was plugged with iodoform gauze down to the sutured portion of the underlying sigmoid flexure.

On the following day, the situation having been fairly laid before the patient, and her consent to the formation of an artificial anus having been obtained, the iodoform plug was removed, the surface of the exposed bowel was painted with cocaine and opened by removing the sutures of the day before. Through this wound the contents of the bowels found an avenue of escape, and the patient was immediately relieved of a distressing flatus.

On the following day an attempt was made to pass bougies through the stricture by passing them into the bowel at the abdominal opening and then downward into the rectum; this attempt however, failed. A stout silk thread was then passed into the bowel, one end, however, being fastened by adhesive strips to the skin of the abdomen, and a cathartic administered, in the hope that the string would be carried through the stricture; this also failed; then a string, weighted with a small revolver bullet whittled to the diameter of a slate pencil, was tried; a cathartic was again admin-

istered and we were rewarded by finding, on the following day, the bullet with the attached string, lying immediately above the internal sphincter.

The two ends of the string, one of which projected from the abdominal opening, and the other from the anus, were tied together to prevent the escape of the string from the bowel.

It was now a comparatively easy matter to tie urethral bougies, beginning with the small sizes, to the silken circuit that had been established and draw them up by way of the rectum through the stricture and out of the abdominal opening. By this means, in the course of about ten days, the stricture was gradually dilated so that the largest bougie would readily pass, when rectal bougies were passed in a similar manner. The dilatation of the stricture was materially assisted by the friction and constant opposition of the string against the stricture over which it passed, on account of the flexion of the bowel at an angle, so that the string practically sawed through the stricture.

When the stricture had been dilated so that a bougie about forty mm. in circumference could be passed, it was found that bougies could be passed *per rectum*, without the aid of the string. The latter was then removed and the abdominal wound permitted to close. In the meantime formed movements began to pass *per rectum*, and but little escaped from the artificial opening.

On May 22d, six weeks after her admission to the hospital, the patient was discharged, with the instruction to continue the use of the large-sized rectal bougie which she was then using. At this time she had regained her health, the abdominal opening was but a mere sinus and her bowels were moved with but little difficulty.

Seven months later (November 16,) she reported at the office. At this time she said she was enjoying better health than for many years before; the abdominal sinus had closed soon after leaving the hospital; a large rectal bougie passed with the greatest facility; she rarely required a cathartic to move her bowels; and altogether she was well pleased with her condition.

THE INTERDEPENDENCE OF THE VARIOUS ORGANS OF THE BODY.*

A. K. MINICH, M.D., PHILADELPHIA.

In that fable of Æsop, depicting the sad consequences of the revolt of the belly against the other members of the body, there is a moral somewhat applicable to the present state of the medical profession. It will be remembered that the belly's severance from all associated organs proved disastrous, thus illustrating the great truth that the several parts and functions of the body are so united in a common purpose and are so connected by a mutual interdependence that for the due performance of the whole mechanism there is required the simultaneous co-operation of each and all of its constituent parts.

A remarkable increase of specialties has been a feature of the medical practice of our time; but our activity in this respect was far surpassed by the ancient Egyptians, of the time of Herodotus, who had special practitioners for every conceivable malady. Subsequently, but so remotely as the Celsian age, Roman practice was signalized by a similar development in the number and variety of doctors, who treated of every condition that could be made the subject of a distinctive nomenclature.

It cannot be alleged that this was a normal growth based on actual acquirements—for in the most ancient of the Hippocratic writings the influence of diathesis and of constitutional states in the production of local diseases was distinctly recognized. There was, also, no warrant in the writings of Celsus for the remarkable extension of methods of

*Address in Medicine, Pennsylvania State Medical Society, May, 1896.

special practice in Rome, but in the capital of the Roman world, as in Egypt, this was an outgrowth of the commercial spirit, and was an evidence of a decadent state—the too eager rivalry in the ranks of an overcrowded profession.

The modern expansion of specialism had its origin in the impulse given by the cellular pathology to the doctrine of local diseases, as compared with the influence of constitutional states. In fact cellular pathology takes note chiefly of the local morbid process, and refers the systemic state to extension by contiguity of tissue, or to reflex impressions proceeding from some center of pathologic influence. While it is unquestionably true that the cultivation of special fields of practice has greatly contributed to advance the science and the art of medicine, are there not reasons for fearing that the commercial spirit is developing out of proportion to the real scientific needs of the profession? Is it not to be feared that the keen rivalry of occupation in a redundant body will tend to debase the aims and lower the standard by which professional conduct has, hitherto, been judged?

One of the last utterances of a distinguished gynecologist, lately deceased, was concerning the value of the operative work, in which, he, himself, had been chiefly engaged during his brilliant and successful career. His estimate, which was in the nature of a judicial summing up of his extensive experience, was a distinct impeachment of its character and value. When the deliberate judgment of a specialist, after life-long experience, is expressed in such terms, the time has come when we should take up anew the question of local or constitutional treatment, and strive to determine when systemic measures should be invoked, or where local and operative treatment should be instituted.

Let me adduce some facts in illustration:—

There are so many examples of the mode in which a common influence affects many, and often remote parts, that it may be useful to call attention to them, however familiar they may be, to show to what extent the interdependence of organs must be taken into account in our therapeutic measures. Although, as I have said, the cellular pathology has had much to do with the development of local treatment, on the other hand, the growth of bacteriology must necessarily modify some of our views on the relation of local to constitutional states. When minute organisms were supposed of themselves to be the immediate cause of morbid states, the main recourse in the treatment, and the logical method of therapeutics, had been the use of local measures—of germicides—to destroy them, and of agents to remove local and immediate consequences of their presence. But when by careful cultivation and filtration, experiments and subsequent trials on animals, it was discovered that not the parasites themselves, but some diffusible poison produced by them was the cause of the morbid complex, it became evident that we had to deal with the systemic effects due to the absorption of the poison and its subsequent action on the parts for which it had an affinity.

Who has not witnessed the varied nervous phenomena, the pulmonary, cardiac, and digestive troubles, succeeding to the local morbid action in a case of influenza? In the course of the physiologic growth of the organism in influenza, a poison is produced, which, absorbed into the blood, is distributed, setting up various disturbances according to the character of the function acted upon. Diphtheria, we also know, is caused by a microbe, which, if destroyed at its origin, may have but little after effect, but continuing its normal growth according to the law of its development, produces a poison of most depressing character, which acts on remote parts. Tetanus is a capital example of the same kind of action. Its peculiar germ, developing in the wound, produces a poison having an action on the spinal cord similar to strychnine. The treatment by antitoxin is an application of the law of physiological antagonism, not unlike the opposition of actions found to exist between various poisons from the vegetable kingdom. The development of typhoid fever is a striking illustration of the mode in which a general morbid complex arises from the local deposit and growth of a pathogenic organism.

Reaching the intestinal canal by water or food, the organism finds a suitable nidus in the ileum, and there growing sets up some lesions, and produces the typhoid poison which infects the system through absorption and diffusion by the agency of the blood. Another striking illustration of the same etiological mechanism is sick headache, although the successive steps in its evolution have not been so clearly made out. What is sick headache, or migraine, but the action of a poison, in its nature not unlike opium, which is absorbed from the surface of the intestinal mucous membrane where it was produced by some special organism? This organism reaching the intestinal canal finds a suitable nidus in a catarrhal state of the mucous membrane, and in the process of its growth elaborates the special poison which affects the system in the way so well known. From these examples it becomes evident that, as regards the actions of germs, the remote and systemic results are more important than the local actions.

When a patient presents himself it is a part of the routine work of the physician to determine the organ or organs affected by making an exhaustive, or at least, careful and thorough examination of the whole mechanism. The manner in which the local disease is modified by other organs is ascertained, and the reality of the morbid complex is referred to the standard of efficiency possessed by the organic whole. It has been said that physicians differ not so much in knowledge and in native endowments, as in the care and thoroughness of their examinations, and mistakes are due not so much to ignorance as to carelessness. Genius has been described as the ability to take pains.

The question to be determined in the study of many ocular maladies—those, for example, due to muscular troubles—is this: shall the eye distress, the headaches, vertigo, etc., be treated by glasses and other local measures, or shall a proper hygienic and medicinal course be used to correct these evils? Ocular deviations, pupillary changes, optic neuritis, etc., are often due to tumor of the brain. An early recognition of albuminuria is often made by the discovery of characteristic changes in the retina. Mental disorders arise from insufficient excretion and depuration by the kidneys. If sick headache may have its origin in the work of a microbe, it is equally true that mental disorders are caused by insufficient excretory activity in the portal circuit. Hypochondriasis and melancholia have been caused by abscess of the liver, and the surgeon rather than the alienist is sometimes required to treat the cases successfully, but the hepatic disease is quite masked by the dominating mental condition, and has usually escaped detection. On the other hand, a basilar cerebral mischief may cause glycosuria, and probably atrophy of the liver.

In an early stage of some cases of aneurism of the aorta, the most pronounced symptom is spasm of the larynx, with a tempestuous and croup-like cough. The aneurism in the course of its formation, projecting as it may do from the under surface of the arch of the aorta, impinges on the left recurrent laryngeal nerve, thus causing spasm of the laryngeal muscles. It has been said when persistent pain occurs without apparent cause in the upper chest and extends thence to the shoulders "suspect aneurism!" To this may be added, when a croupy and spasmodic cough occurs in a subject of middle age, for which no explanation is offered, "Suspect aneurism of the aorta!"

Heart troubles, especially "heart failure," often have their origin at remote points, and what was supposed to be an affection of the heart is really a reflex. An intermittent and irregular pulse is frequently due to stomachic derangement, as everybody knows. A slow pulse may mean not an affection of the motor apparatus, but liver disease, and a pulse rapid and irregular, renal mischief. An asthmatic seizure may be significant of uremia, and profound unconsciousness may be due, not to cerebral hemorrhage, but acetonuria. Under such circumstances to treat the cardiac symptoms, and ignore the causative disturbance, is adding insult to injury. "Weak heart" is a term that covers a multitude of sins, and "heart tonic" too often is a remedy that imposes two burdens for one that it removes. An habitually weak circulation may be due to chronic metallic poisoning. To re-

lieve it, the poison must be excreted after which it will take care of itself.

Many nervous diseases admirably illustrate the interdependence of functions of organs. Among the constitutional states affecting the integrity of brain and nerve, the most important in all aspects is syphilis, and this is responsible by way of syphilitic arthritis for many cases of cerebral hemorrhage and hemiplegia. There can be no doubt, but that timely treatment would save many cases of this character. Increasing experience has pretty well established the specific origin of locomotor ataxia, and to the same source must be attributed a large proportion of the cases of that melancholy disease, dementia. Another example of the remote origin of a nervous affection is neurasthenia. Does any one effect a cure by treating merely the nervous disease? After an unavailing round of nerve remedies some unexpected event, some other and well-defined malady, makes a profound impression, under cover of which, so to speak, the neurasthenic symptoms disappear.

Gynecology furnishes many examples in illustration of the same truth. There is no department of medicine, indeed, in which the interdependence of organs is more conspicuously manifest. For the time being the brilliant procedures of the operative gynecologist has quite overshadowed the methods of ordinary practice. When a phantom tumor has been the subject of operative treatment it would seem necessary to look from the local to the general state. It is probably true, as the distinguished gynecologist already referred to not long since asserted, that many instances of laparotomy might have been avoided. The "personal equation" goes for much; suitable hygienic and medical treatment might be expected to do more, and nature might accomplish the rest.

The relation of local to constitutional states, and the manner in which treatment is thereby affected, is further abundantly exemplified in the diffusion of specific infection. Although it is no doubt true that gonorrhea is a purely local affection, it is becoming more and more clear that to an extension of the specific inflammation to the uterus and tubes must be ascribed many of the derangements leading to the more troublesome of women's diseases. No doubt, this is, also, largely responsible by extension by contiguity of tissues for vesical, uretal and venal diseases in both sexes. Long after the evident local symptoms have been apparently cured, catarrh of the bladder, of the ureters, of the pelvis of the kidney, and of the body of the kidney slowly develop. In a more distinctly constitutional sense, syphilis is a cause of remote, obscure and serious structural alterations. Although it is well understood that the poison of syphilis is becoming milder in its local manifestations, and more amenable to remedial measures with the progress of time and the improvements in hygiene, it is partly in consequence of this fact that the treatment is often inefficient, the infection penetrating to the organic substratum, and subsequently spread indefinitely by the methods of heredity. The very mildness of its manifestations constitutes one of its chief dangers. Unusual and unsuspected sources of poisoning thus occur, and the nature of a particular manifestation not being apparent, diffusion takes place amongst those totally innocent of wrong-doing. There is especial need in these times for recognizing these sources of poisoning, and for applying the remedies having a special curative power.

It is an interesting fact that the organism causing rheumatic arthritis has just been discovered; and that similar organisms are concerned in the evolution of syphilis and gonorrhea lends new interest to the relationship of these affections. The organism causing rheumatic arthritis is found in the fluids and tissues in and about the affected joints. The rheumatic attacks occurring in gonorrhea will similarly be found to arise from the local deposit and growth of a microbe, and again the specific organism of syphilis, wherever it finds a suitable nidus, will undergo its own process of development and give rise to characteristic changes. Obviously, the time is approaching when relief will be best afforded by systematic treatment, and local remedies subordinated to those agents having antiseptic or germicidal powers. The mysterious changes, therefore, caused by gonorrhea and syphilis, which seem now to demand local and

surgical treatment, will melt away under the action of systemic remedies hostile to their respective organisms.

From the familiar examples I have given it is not difficult to deduce the moral of my discourse, which is to emphasize the importance of local or constitutional conditions and to deprecate the tendency now so prevalent,—to exaggerate the importance of local or surgical or mechanical measures unduly. Let us strive to prevent a too luxuriant growth of the commercial spirit as manifest in the increasing refinements of special practice, not supported by superior endowments.

CARBOLIC ACID POISONING.

A. J. HILL, M.D., East Rochester, Ohio.

Last May, Mrs. G., a healthy woman of about thirty-five years of age, presented herself for treatment for oxyuris vermicularis.

I prescribed a drachm and a half of carbolic acid to a quart of water, to be used as an injection. When half of the quantity had been used, she became dizzy, and, to use her expression, "felt queer all over."

The bowels moved twice inside of as many minutes. In the meantime she became more dizzy and also complained of a sense of weight in the head. Besides this there was a dull pain in the stomach and a desire to vomit. A feeling of intense heat existed throughout the body, the breathing was accelerated and she had considerable difficulty in inspiration.

The pulse was weak and rapid and the patient was completely prostrated. A fatal termination seemed probable, when the intensity of the symptoms abated, and at the end of three days she considered herself well.

Strong coffee as a stimulant gave the greatest relief of anything that was given. I am confident that the patient would have died had she retained the injection for any length of time. The poisoning was evidently due to extreme susceptibility.

This case, together with one that I saw in consultation, where similar but milder symptoms supervened from a weak solution being used as a lotion for the itching of urticaria, leads me to condemn the use of carbolic acid as a lotion over extensive surfaces, and as a remedy against the thread-worm in particular, although many a standard work recommends it for the latter.

One of the "Autocrat's" Experiments.

Dr. Oliver Wendell Holmes once told a dinner party how he undertook to solve the enigma of creation. Having observed that when unconsciousness is consciously approached, as during the inhalation of an anesthetic—when the mind is on the confines of two worlds—there arise sublime and voluminous but fugacious thoughts, and having satisfied himself that in these thoughts, if they could only be caught and transcribed, there lay enshrined the secret of the universe, he determined that by a supreme effort of the will he would catch and transcribe them. So, placing himself in his armchair, with pen, ink, and paper at hand, he inhaled the vapor of chloroform. As drowsiness stole over him, and just as unconsciousness was impending, those sublime and marvellous thoughts arose, and by a vigorous effort he seized his pen and wrote, he knew not what, for before he had finished he fell back unconscious. When he awoke with trembling anxiety, he turned to the sheet of paper, on which he could read, in scrawling characters, but quite legible, the secret of the universe, written in the words, "A strong smell of turpentine pervades the whole."—*Health.*

CURRENT LITERATURE CONDENSED.

A Case of Stammering Due to Adenoid Vegetations, and the Result of Treatment.[1]

More than fifty years ago, such operations as excision of parts of the tonsils, parts of the tongue, amputation of the uvula and division of some of the fibres of the hyo-glossus and genio-hyo-glossus muscles were, with more or less success, performed for the cure of stammering. These met with deserved opposition, because they were done empirically, and not to remedy known anatomical defects.

Less than two months ago, I saw a child whose speech, always defective, was growing worse. He had a peculiar catch in his voice and had lately been almost unable to speak, especially before strangers. He was nervous, timid, poorly nourished and had always suffered from indigestion. The problem in every case of speech defect is, what is the cause and what the effect. For instance: Does the stammering cause the indigestion or the indigestion cause the stammering? Any trick for the cure of stammering must be, when applied to all cases, a failure, because there are no two cases alike and each case requires a separate study. Examination of this case showed also defective tongue action, an elongated uvula, and what appeared to be slight adenoid thickening, although my view was limited. I observed also that the boy had defective vision. The difficulty in speech seemed to be at the base of the tongue, and even when no attempt at speech was made there were peculiar twitchings of the lingual and facial muscles. After careful study of the case for a couple of weeks, I made a diagnosis of chorea of the facial, lingual, pharyngeal and laryngeal muscles, due chiefly to adenoid hypertrophies and in part to some deviation from the normal of the genio-hyo-glossus muscle and to defective vision. I etherized the patient and removed, with the curette, a mass of tonsillar tissue fully as large as a black walnut from the vault of the pharynx. I also divided the frenum of the tongue well back. Improvement has been so rapid that I have thought other operative interference unnecessary. The after-treatment, besides the application of glasses, has been along the line of elocutionary drill. The boy has evinced rather more than average will-power and intelligence, and his mother has greatly assisted in carrying out my directions. Two months ago he could not tell me his name, but now his speech is better than that of the average boy of his age.

[1] G. Hudson Makuen, M.D., *The Therapeutic Gazette*, June 15, 1896.

Psychological Consequences of Suppressed Menstruation.[2]

It is a matter of common experience that the suppression of the catamenia is likely to evoke various symptoms indicating disturbances of the patient's general health. Suppression of the catamenia may be premature, or occur at the natural epoch of the change of life. In either case the results may be harmless or the reverse. In either case the mind may be affected. It is a curious clinical fact that the mental disturbances should be much more frequent at the natural period of the climacteric, than when the menstrual function is suddenly inhibited by accidental causes.

Normal menstruation may be described as the monthly discharge of a moderate quantity of sanguineous fluid without pain, in physiological response to the periodical ovarian nisus associated with the maturation and escape of an ovum or ova.

The fluid consists mainly of blood; it contains also more or less mucus and epithelial scales cast from the decidua menstrualis. One characteristic of the blood is that it does not readily coagulate. The menstrual nisus may be regarded as analogous to gestation. It is clear that such a process cannot be inhibited without distress and danger in various directions. One of these is tidal wave of high and low tension in the pulse, the high tension preceding, the

[2] Fancourt Barnes, M.D., F.R.S.E., in *Medical Press and Circular.*

low tension succeeding, the menstrual wave.

In a case of hernia of the ovary, I found that the sphygmographic tracings coincided with the vascular congestion preceding, and the low tension following menstruation. I refer to the vascular tension in connection with menstruation, because it undoubtedly plays an important part in the case I shall relate. My chief object is to draw attention to the psychological changes which may arise, in some cases, from the suppression of menstruation by causes other than gestation. The case in hand is a striking one, and exemplifies the serious danger of disturbed menstruation.

Miss S., aged twenty-seven, consulted me in May, 1895. She had first menstruated at the age of sixteen and had continued to do so punctually and naturally until a year before she saw me. Her sister, who accompanied her, stated that she received a great shock from the death of her father, whereupon menstruation ceased. Two successive attacks of influenza assisted the depression from the original shock. From the time that the menstrual functions ceased, she gradually became more and more weak-minded, until her condition was not much above that of an imbecile. Her everlasting ejaculation and plaint was: "Oh, my head!" Her physical condition was also distressing. Her legs were swelled, and the abdomen was also distended by flatus. The eyes were distended and prominent as in exophthalmos. Her sister stated that during the fifteen months or so that she did not menstruate, she had seen several medical men and had undergone the routine medical treatment in such cases with no relief. As she was virginal, I advised an examination under chloroform, so that surgical treatment might follow upon the track of diagnosis if necessary. As the os uteri, without being unduly contracted, was by no means well developed, I thought it best to divide it bilaterally. This I did in the triple hope of physically exciting the uterus, of relieving the intense state of congestion, and of securing a more spacious entrance for subsequent intra-uterine treatment. Having divided the cervix, I made an intra-uterine application of tincture of iodine. After this, I applied tincture of iodine to the endometrium twice a week for three weeks. At the end of one month from the day of the operation, the menstrual function was re-established. The menstruation was painless and there was a free flow of blood.

From that day forth the patient's mental and physical symptoms began steadily to disappear. She came to me to report herself some months after as being perfectly well. A case like this shows the importance of surgical treatment in obstinate conditions of the uterus. The uterus usually yields to local treatment. Here drugs had failed. This patient was drifting into an asylum for the insane, where she would most probably have remained for life, had not her friends consented to the surgical treatment I have described.

Shall We Educate Obstetric Nurses for the Poor?[3]

In the course of long and ofttimes bitter discussion upon the subject of midwives' legislation, which has for many months been uppermost in the columns of our English contemporaries, *The Medical Times and Hospital Gazette* has taken an independent stand in favor of the education of a new body of obstetric nurses. The arguments brought forward in favor of this innovation are so cogent that they are well worthy of our consideration upon this side of the Atlantic.

The ignorant self-sufficiency and notorious uncleanliness, from an obstetrical standpoint, of the average midwife is so well recognized as to need no re-argument; yet, in the ranks of the very poor, their services are almost indispensable, for extreme poverty leaves no alternative to their employment, except the acceptance of gratuitous attention from the midwifery dispensaries or confinement in one of the various obstetric hospitals. Between this class, however, and that of the well-paid artisan, there lies another large class, with sufficient pride to make them shrink from joining the ranks of medical paupers, yet whose resources will not allow them to pay anything except the smallest fees for medical attention.

Every young physician for a year or

[3] Editorial in *American Medico-Surgical Bulletin*, July 18, 1896.

two of his career is willing to assume the care of some such cases for this small return plus the experience to be derived from them, but he soon finds that to insure the safety of his patient he must assume also the duties of obstetric nurse during the days following labor, and this burden soon convinces him, as his practice grows, that the small compensation does not repay him for the time, responsibility and frequent visits necessary to conduct the case in a conscientious manner. Had he to assist him a person trained in the principles of antisepsis and competent, without constant supervision, to give douches, pass a catheter, or to care properly for the eyes and unbilical cord of the child, his after-visits need be fewer and of much shorter duration. Many women serve in the capacity of helpers during confinement, caring for the patient and doing the work of the household, but they are mostly sadly incompetent as nurses, and if middle-aged or old, as is frequently the case, are so opinionated as to be entirely unreliable.

A body of women might readily be trained as helpers in the wards of our obstetric hospital where, with short courses of instruction by the resident, the supervision of the trained nurses and their own keen powers of observation, they could, at the expiration of perhaps three to six months, be able to pass a simple examination upon essentials, and receive certificates attesting their fitness to act as nurses in obstetrical cases. The holders of such certificates would, we feel sure, be in constant demand. There certainly would be no difficulty in finding applicants for such training, for there are plenty of women who would be glad to receive a training which would enable them to earn seven to ten dollars a week. Nor is this principle a new and untried one, for the Training School for Nursery Maids, established some years ago at the Babies' Hospital (New York), graduates nurses who serve for ten dollars a week, and their services are so much appreciated and so sought after that there are twenty applications for every nurse on the list.

There is in New York no system for the examination or licensing of midwives, and any old crone who so elects may go forth armed with her pot of dirty vaselin, her stock of superstitions and old wives' notions, her grimy hands and germ-laden nails, to work destruction where she will. The flood of light thrown by bacteriological research upon the origin of puerperal sepsis and the infectious diseases of the new-born should have long ago swept away these grim specters.

Why prosecute the charlatan and the unlicensed practitioner, if we allow the filthy midwife to operate upon a field whose avenues for infection stand wide open? If we cannot have state or municipal control of the midwife, let us educate the obstetric nurse for a reliable attendant, and the midwife system will receive a mortal blow. Feminine intuition will soon teach the child-bearing woman of their value, and more women would be able to secure skilled medical attention in childbirth, if the physician were relieved of some of the labor and responsibility in the after-treatment of the case.

Tetanus Neonatorum.[4]

Many states have passed laws for the prevention of blindness in the new-born, but there are none for the prevention of tetanus, which is frightfully prevalent among the poor and uncleanly. I believe that in nearly every instance the disease enters the system through the navel as soon as the cord begins to separate.

The more filthy the conditions present and the hotter the weather the more rapidly is the funis divided and the more apt are the disease germs to enter. Nearly all of these cases occur where midwives are in attendance and if they cannot enforce cleanliness sufficiently early to prevent the disease they can at least use antiseptics and they ought to be compelled to do so.

Physicians should also use antiseptics where the surroundings are not what they should be. They prevent suppuration, retard the separation of the cord and thereby lessen the danger of infection. In the spring of 1892 a woman in this town, who had several small children and whose surroundings were very bad, gave birth to a child. On the eleventh day the navel was still an open

[4] Edward Anderson, M.D., Rockville, Md., in *Maryland Medical Journal.*

sore, when the child was seized with tetanus and died on the fourteenth.

On May 22, 1894, I was called to see a child of the same woman five days old suffering with the same disease. I gave chloral hydrate, which checked the spasms, and breast milk as nourishment, but the child died on the third day. I would remark right here that as it is impossible for them to nurse in this disease, I resort to the same method as I do in all cases where I have convulsions to contend with. Two spoons should be used, one held between the teeth as a trough, and the medicine poured into it from the other; in this way none is spilled and you are sure of the dose. I told this woman that everything about the bed must be renovated or every subsequent birth would be attended by the same consequences.

On May 17, 1896, I was sent for to see another child of the same woman, twenty-four hours after its birth, the mother fearing it might go like the others. Between the birth of this child and the last the ticking had been emptied and boiled, together with everything else about the bed. I used iodoform ointment freely in this case and the child has been perfectly healthy since its birth and is now entirely out of danger. Whether the ointment alone would have saved the child or not, I am unable to say, but had I not been called in 1894, this one would have undoubtedly shared the same fate as the others.

Antiseptics should be used in every case where disease is likely to occur, for it is too late, as I have proven, after the disease is developed.

TRANSLATIONS.

HINTS FROM GERMAN WRITERS.

A. L. BENEDICT, A.M., M.D., BUFFALO, N. Y.

Dr. von Wassmuth, of Frankfort-on-the-Main, publishes an article in No. 2, vol. 46, of the *Jahrbuch für Kinderheilk*, on the digestion of cows' milk by children. The indigestibility of this food depends not only on bacterial and chemical causes, but on physiological conditions. On account of the considerable quantity of casein and salts in cows' milk, hydrochloric acid is combined in much greater amount than when the diet consists of mothers' milk; hence the stomach-contents are richer in bacteria, and, therefore, more irritating to the intestine. In spite of the nutrition contained in the coarse flakes of casein, gastro-enteritis sets in, the symptoms being largely ascribable to the removal of the normal antiseptic, hydrochloric acid. Since hydrochloric acid is ultimately derived from sodium chlorid of the blood, there is theoretical support of the custom of adding salt to the milk, but there is no practical demonstration of the benefit of this custom.

Dr. Martin Mendelsohn, in No. 48 and 49 of the 1895 issues of the *Berliner Klin. Wochenschrift*, discusses enuresis. He recognizes a three-fold treatment. (1) The most important factor is to have the child empty the bladder every two or three hours during the evening and immediately before going to bed. (2) The foot of the bed must be raised so that the urine secreted during the night falls into the posterior and superior segment of the bladder, and irritation of the neck, which reflexly causes urination, is postponed as long as possible. (3) Tinctura rhois aromaticæ is given in doses of ten to fifteen drops, t. i. d. In rare cases, other methods must be employed. The most effectual of these is the administration of belladonna, preferable in combination with nux vomica or chloral hydrate or, fin-

ally, faradic treatment of the sphincter vesicæ. One electrode is introduced into the rectum, and the other is placed on the raphè of the perineum or in a fold of the belly. General hygienic and dietetic measures must be enforced, particularly exercise in the open air, massage and cool baths.

Dr. von Moosberger, in No. 47 of the issues of 1895 of the *Munich Medical Weekly*, reports cases of tricocephalus disease. Strümpel ascribes to this parasite no especial clinical importance, and states that, at most, coprostasis and unpleasant flatulence is produced. Von Moosberger reports the following three cases to prove that it may cause serious trouble:—

1. Advanced anemia, with copious diarrhea, liquid or gelatinous stools, bright yellow or often bloody. Marked abdominal pains, but without tenderness or pressure and with continuance of appetite. Loss of strength, in spite of abundant nourishment. Microscopic examination of the feces showed tricocephalus eggs in enormous quantities, about 8878 in a cubic centimeter.

2. This patient, already very much depressed, became sick with croup and died. During life there were about 3,000 eggs per cubic centimeter in the stools. At the section, 442 male and 447 female parasites were found. The mucous membrane of the colon was thickly covered with a tough, whitish-gray mucus coating. The membrane as a whole was pale, reddened in a few places as a consequence of capillary injection, especially at the end of the transverse colon and in the upper half of the descending colon. In the first third of the transverse colon was a loss of substance as big as a lentil, slightly injected and sharp-walled. It extended to the muscularis. There was a broader ulcer and, at the summit of a deep red villosity, a superficial excoriation.

3. A child that eats dirt is very pale, has little appetite, and has twenty to twenty-five thin liquid stools daily, occasionally mixed with blood. The child failed progressively. About 1,650 tricocephalus eggs were found per cubic centimeter. There was marked prolapsus ani. (The outcome of the case is not definitely stated.)

The sources of infection are, next to dirt, vegetables and unclean drinking water, and there may be included the patient himself. A mature female parasite produces more than a thousand fertile eggs in twenty-four hours, which, wandering in the intestine, can develop without an intermediate host. The symptoms are diarrhea, pain and, most characteristic of all, a pallor with a tinge of green. The impoverishment of the blood depends on the failure of assimilation, induced by copious discharges from the bowel, which, in turn, depend on the irritation of the movements of the worms. On the other hand, coprostasis may result from the coiling of a mass of parasites. Either condition may persist for months, resisting every method of treatment. The whip-worm does not nourish itself directly from the blood, since a red corpuscle cannot pass its œsophagus (Leuckart) nor from the feces (Küchenmeister) but from the cell-contents or the fluid bathing the cells, the parasite penetrating the mucous membrane with its thread-like proboscis. Thus it withdraws nourishment from the body and blood through the wound which it makes. The number of parasites may be stated thus: The number of females is equal to ½ of the number of eggs per cubic centimeter of feces. The number of males is about equal to that of the females. Charcot crystals, even in the absence of eggs, establish a probable diagnosis. Treatment can deal only with general strength.

M. Kopylowski reports, (*Archives for Dermatology and Syphilis*), an investigation into the frequency of the occurrence of gonococci and other bacteria in the secretion of the cervix uteri of apparently healthy prostitutes. He examined 163 prostitutes on admission to the hospital. In the ninety-two cases in which gonorrhea was diagnosed clinically, he found gonococci nine times. In seventy-one women without clinical evidence of disease, he found gonococci five times. After repeating the examination and making cultures from the urinary passages, the number of cases in which gonococci were found was much increased. Unfortunately, our exchange does not state the exact figures.—*Centralblatt für Chirurgie*, December 21, 1895.

S. Mintz (quoted from a Polish maga-

zine), reviewing original and reported cases of pylorectomy and gastro-enterostomy, reaches the following conclusions:

A. Cancer of pylorus—pylorectomy.

1. The stomach returns to its normal dimensions after resection.

2. Digestion returns to normal, except in those cases in which atrophy of the muscular coat or extensive carcinomatous infiltration of the stomach has occurred.

3. The capability of the stomach to shut itself off from the intestine is normal after resection, in spite of the lack of the pylorus.

4. On the contrary, chemical digestion is scarcely ever improved.

B. Cancer of pylorus—gastro-enterostomy.

1. After gastro-enterostomy, the chemism becomes worse and worse, till after several months, secretion of the gastric juice ceases entirely.

2. On the contrary, mechanical digestion becomes markedly improved, without ever becoming quite normal.

3. A comparison of these results shows that pylorectomy is to be preferred whenever possible.

4. If pylorectomy is not possible, jejunostomy is to be preferred to gastro-enterostomy.

C. Cicatricial contraction of the pylorus.

1. After gastro-enterostomy, the stomach regains its normal size.

2. The new sphincter functionates satisfactorily.

3. Mechanical and chemical digestion become normal, providing serious changes have not occurred in the mucous membrane prior to operation.—*Ibid*, December 28, 1895.

Egbert Braatz, in an illustrated article on fractured clavicle, describes and pictures a bandage closely resembling, if not identical, with that devised by Dr. E. M. Moore, of Rochester, formerly of Buffalo. Due credit, however, is not given to the distinguished American surgeon.—*Ibid*, January 4, 1896.

Schwartz sets forth his experiments with diaphany of various tissues and cavities, in normal and diseased states. He concludes that the method is of value but only occasionally decisive; while experience, obtained by close study and attention to technique, is necessary.—*Ibid*, January 4, 1896.

Kopfstein, in an article in the Vienna *Clinische Rundschau*, details his experiments with fifteen cases of inoperable cancer treated with erysipelas serum. He concludes that the method is not in the least curative.—*Ibid*, Jan. 11, 1896.

The Early Morning Hour the Best for Operations.

The hour for capital operations is by no means an unimportant consideration. A writer in *Gaillard's Medical Journal* says that in following the course of operative cases and various operators for a number of years, in the hospitals of a large city, it seemed that the early morning hour had a great many claims which entitled it to serious consideration. A good night's rest, attained artificially if necessary, an empty stomach, the patient all ready for anesthesia upon awakening, the fear and dread of what is coming being crowded into the fewest possible moments, the whole day with active attendants constantly moving about and alive to every demand of the patient, the ability to run in and see for one's self how the case is doing during the first twelve to eighteen hours, without encroaching upon the practitioner's allotted time for sleep, are a few of the points which seem to recommend an early hour. On the other hand, it cannot be denied that it may be a source of greater task upon the surgeon's powers, especially if he be concerned and anxious, as conscientious men always must be, in regard to capital operations, and if this anxiety interferes with the operator's sleep. Even with this disadvantage, he believes the operator capable of doing better work before he has become tired and annoyed by the various demands upon him during the early hours of the day. It would be impossible to compare the results, because of no data with which to make a comparison, but he believed that the men who have operated extensively in the early morning hours have never returned to afternoon operations as a matter of choice.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, SEPTEMBER 5, 1896.

EDITORIAL.

THE DOCTOR AS A STUDENT OF MEDICINE.

Some men literally "complete their medical studies" at the time of their last examination, before the conferring of their degree or license. If any such happen upon this editorial, they will please skip it as containing nothing of interest to them. We are addressing our fellows who realize the necessity of continued post-graduate *study;* not simply meditation over cases nor listening to papers nor the repetition of routine clinical tests but the same kind of reading and memorizing which occupied the attention before the terrors of examination were matters of history, save only that now we are free to learn facts because they are true and not because they are the hobbies of some professor.

The methods of study and the time spent must differ according to the circumstances of the individual practitioner. For the oculist, it would be a waste of time to maintain a familiarity with the technic of abdominal sections, yet it is a mistake to suppose that a general understanding of medical progress is out of place in the specialist. There is a subtle surgical skill, too often lacked by expert operators, merely in understanding the indications for surgical interference and in knowing what may reasonably be expected from an

operation. This is a field in which the purely medical man, by study and observation, may become as proficient as the actual operator while he enjoys a better opportunity for judging impartially in the best interests of the patient. One of the greatest authorities on Cesarian section gained his reputation almost if not quite by this sort of study. There comes to us again and again the memory of one of the noblest and most promising physicians of our acquaintance whose life was sacrificed to the ignorance, on the part of his elderly attendant, of the limits of justifiable medication and of the urgent need of surgical interference in inflammation of the appendix. On the other hand, we have only recently had to crush the false hopes of a patient with advanced malignant disease whose attending physician had led her to expect a cure from operation. Many other illustrations might be given of the importance of a knowledge of the general principles of all branches of medical art, by every practitioner, however limited his own scope.

We venture to protest against the very common custom of "reading up" cases. We do not object to refreshing the memory as to crucial symptoms or making sure of a dose or acquainting oneself with the properties of some new drug. For such study, there are special reviews of the most accurate and convenient character, so that a maximum of information may be obtained with the minimum of effort. But we do believe that the man who shapes his reading according to the utterly unsystematic manner in which diseases present themselves, wastes much time in going over and over the same ground, while he loses the opportunity to broaden his experience. This is particularly true of puzzling cases or those in which the preconceived diagnosis is wrong. Let us suppose, for example, a case in which the prominent symptom is severe pain, not exactly localized but felt in a broad area at both sides of the umbilicus. The physician may seek in vain for a satisfactory explanation from reading under the headings which his tentative diagnoses suggest. Colic, gall-stones, gastritis, cancer, ulcer, gastralgia, etc., may all prove blind leads and, months afterward, an article on locomotor ataxia may give the true interpretation of girdle pains. We suggest, therefore, that a text-book be kept on a convenient corner of the desk, and read in course, a few paragraphs or a few pages at odd moments. In the long run, such reading will give better help in particulars as well as afford a better conception of generalities, than reference to books with the direct intention of receiving light on a special case.

In a previous issue, we emphasized the value of contemporary literature as found in periodicals of high grade and expressed the preference for books dealing with a single subject rather than those of cyclopedic scope. In regard to the latter topic, it may interest our readers to know that two members of the editorial staff of the REPORTER began the preparation of such an article, each without knowing the other's intention.

It requires time and experience to be able to judge rapidly and correctly of the value of a journal article. Too often, undue attention is paid to the author or even his place of residence. When we have to deal with some curious anomaly or an interesting case of sickness, Dr. John Smith, of Haystack Center, is as competent and deserves the same respectful attention as Prof. Bluff, of the International University, of Millionopolis,—providing always that he has a fair knowledge of medicine and can describe what he sees and thinks. In fact, we have always been inclined to

the opinion that a man who has no right to inflict his views upon the rest of the profession has still less right to impose his services on suffering humanity. Original research is always valuable, though not equally so to all who may read the report, and it usually carries its own stamp of genuineness. But medical art is too old to allow the discovery of more than a corner that has not been trodden before, and the new is of value only as it is correlated with the old. Many articles that are only a compilation from other writings are at least convenient in affording an easy way to keep informed of the world's progress in medicine and to remind us of many forgotten details. But there is no easy nor simple way of self-improvement. Constant observation, careful attention to the work of others, close habits of study are all needful.

ABSTRACTS.

WHEN AND HOW TO CURETTE THE UTERUS.*

The operation of curetting the uterus is indicated in a number of pelvic disorders which differ widely in their nature and their gravity.

1. Probably the lesion that most frequently demands its performance is chronic *Endometritis*. But great care is required in the proper selection of cases; and this for two reasons:—

(*a.*) Many cases of endometritis recover completely without any operation, but if rest, hot douches, saline aperients and the occasional swabbing out of the uterus with iodine or carbolic acid should fail, curetting is distinctly indicated, and will, in the great majority of cases, effect a cure.

(*b.*) Endometritis is frequently associated with other and much more serious pelvic lesions, such as pelvic cellulitis and peritonitis, with ovaritis, salpingitis, or pyosalpinx. To curette the uterus in the presence of such lesions would be to court disaster.

2. The second great class of cases which call for curetting are those where we have, as the result of the *incomplete emptying of the pregnant uterus*, the retention within its cavity of pieces of membrane, fragments of placenta, even portions of a putrid fetus. In these cases there must be no delay in operating, but as soon as the presence of the offending fragment is diagnosed, it must be removed with the curette. In no class of cases does operative interference yield more brilliant results.

But it must be remembered that in the septic cases the prognosis depends to a large extent on the degree of septic absorption. If it be only a sapremia, the removal of the putrid fragment will cure the patient; if it be a septicemia, the outlook is much graver. Curetting will undoubtedly save many cases of puerperal septicemia where the *fons et origo mali* is a mass of necrosing material in the uterus, and where the systemic infection is not profound. But it is obvious that if a pyosalpinx have formed, or there be suppurative peritonitis, curetting will do positive harm. Curetting is not a panacea for puerperal fever. The best results are obtained where the symptoms clearly point to a retained and putrid fragment in the uterus, where the surgeon is called in at an early stage of the disease, and where the clinical phenomena are those of septic intoxication rather than of septic infection.

3. Curetting has been advocated as a palliative in myoma and cancer of the uterus. It has been recommended in certain cases of *myoma* as a means of checking the excessive losses. I cannot

* Christopher Martin, M.B. Edin., F.R.C.S. Eng., Surgeon to the Birmingham and Midland Hospital for Women, in *Birmingham Medical Review.*

too strongly condemn such a proceeding. Curetting, at best, would only temporarily relieve the patient, and might do infinite harm by inducing sloughing of the tumor and subsequent septicemia.

So, also, in the case of *cancer*, it is questionable if it afford any but the most transient benefit. When the growth is strictly limited to the cervix or the endometrium, we should offer the patient the more certain hope of cure afforded by vaginal extirpation of the uterus. If the disease be too far advanced for this operation, the less we interfere with it the better.

4. Lastly, curetting is occasionally demanded for *diagnostic purposes*. Where we suspect that the patient is suffering from early cancer or sarcoma of the uterus, we may obtain, by curetting, fragments of tissue for microscopic examination, and may thus diagnose malignant disease in its early and most remediable stage.

The preparation of the patient is important. When we can choose our time, the operation is best performed about midway between two periods. In many cases, however, as when the hemorrhage is continuous or the symptoms are urgent, we must operate without delay. For twenty-four hours before the operation she must rest in bed. The bowels must be freely opened the day before; and on the morning of the operation an enema should be given to ensure an empty rectum. The vagina should be well douched the evening before, and again on the morning of the operation, with some reliable antiseptic solution. Immediately before the operation, the nurse should pass the catheter and empty the patient's bladder.

The patient having been anesthetized, she must be placed in the lithotomy position—and this is most conveniently effected by Clover's crutch. Before commencing the actual operation, a final bimanual examination should be made, in order to make sure that there is no disease of the appendages and that the uterus is not fixed by perimetric adhesions.

The perineum must be pulled back by some form of speculum. I can strongly recommend the use of Auvard's speculum. This is heavily weighted with a ball of lead, so that the instrument is self-retaining, and by its own weight pulls back the perineum and posterior vaginal wall. I have found it of great service when I have had to perform curetting without assistance. It can only be used, however, when the patient is in the lithotomy position.

Dilatation of the cervix is not always necessary. For instance, in puerperal cases the os is usually widely gaping and the canal patulous. There are numerous methods of effecting dilatation, each of which has its own peculiar drawbacks, though some are much more objectionable than others. Of all methods, that involving the use of tents is the most dangerous from the risk of sepsis.

It is a great advantage to be able to effect the whole process of dilatation whilst the patient is under chloroform—dilating the cervix and curetting the uterus at the same sitting. For this reason I prefer the method of rapid dilatation by means of Hegar's dilators or some modification thereof. It is far less troublesome for the surgeon, it involves no suffering on the part of the patient, and I believe it to be safer than any of the methods of slow dilatation.

The anterior lip of the cervix should be seized with vulsellum forceps and drawn down to the vulva. If the uterus be so held by adhesions that it cannot be pulled down, the operation had better be abandoned. Having ascertained by means of the uterine sound the precise depth of the uterus and direction of its canal, the surgeon holds the vulsellum firmly in the left hand and with his right slowly passes the smallest-sized dilator (smeared with some antiseptic lubricant) into the uterus. If it meets with no resistance he at once withdraws it and passes the next size. If the cervix grips the dilator and resists its passage, the surgeon must press the instrument *very slowly* home. Having got it in he should wait a little before withdrawing it. After a longer or shorter pause the grip of the cervix will be found to relax, and then the instrument may be withdrawn and the next size inserted. If this relaxation of the cervix does not occur within a few minutes the instrument should be withdrawn and reinserted.

The limit of safe dilatation varies in

different cases. Where the patient has previously had a child it is usually easy to dilate the cervix until it will admit the forefinger. But if the uterus be nulliparous, and particularly if it be infantile, the process of dilatation is more difficult, takes a longer time to effect, and should not be carried to the same extent. As a rule it is possible to dilate a parous uterus in from ten to fifteen minutes, whilst a nulliparous womb may require half an hour or more. When the most resisting part of the cervix is at the external os it is sometimes necessary to nick it bilaterally with scissors before dilating. The chief objection to the method of rapid dilatation is that if the tissue of the cervix be very resistant it will not stretch but tear. If unnecessary violence be employed, the uterus may be perforated or even ruptured by vertical splitting. Such accidents, however, should never occur if reasonable care be taken and there be no undue force or haste on the part of the surgeon.

A less serious accident is laceration of the cervix, which may occur if its tissue be very soft and vascular, the teeth of the vulsellum tearing out when the dilator meets with resistance. If the degree of dilatation permit, the forefinger should now be passed into the uterus and its cavity explored.

For nearly all cases the sharp curette will be found preferable to the blunt one, and the best form is a modification of Simon's sharp spoon. It should be made wholly of metal so that it may be sterilized by boiling before each operation. The largest size that will easily pass the cervix should be gently introduced and passed without any force until it impinges on the fundus. Steadying the cervix with the vulsellum the sharp edge should be pressed firmly against the mucosa and the curette drawn slowly down—scraping off a vertical strip of the whole thickness of the mucous membrane and exposing the muscular coat.

By a repetition of this maneuver a series of parallel strips are removed until first the anterior, then the posterior, and then the lateral walls are completely denuded. The surgeon must then carefully curette the fundus and the two upper lateral angles leading to the Fallopian tubes.

The flushing curette is a most useful instrument when the uterus contains much debris—as in cases of retained secundines. The handle and stem are tubular, and if the instrument be connected with the tubing of a hydrostatic douch-can, will permit of the passage into the uterus during the process of curetting of a constant stream of weak antiseptic solution which carries with it, as it escapes through the cervix, all clots and loose fragments of tissue. If the solution be used hot enough it will also check bleeding.

If the flushing curette be not used, the clots and tissue debris should be wiped away by means of probes covered with absorbent wool. For the last two years I have used for this wooden skewers, instead of Playfair's probes, and have found them to answer admirably. I buy them from the poulterers in bundles of a hundred. To prepare them, the ends must be roughly rounded off with a penknife and the skewers boiled or steamed for an hour or more to sterilize them. When wanted for use, the end should be wetted and the wool rolled on in a thin film. They are so cheap that one can afford to destroy, after each operation, all the probes that have been used. No probe is used twice. and in this way the risk of carrying septic infection from one uterus to another is reduced to a minimum. When it is remembered how frequently curetting is performed in septic cases, it will be seen that this risk is no imaginary one.

Having thoroughly washed out or wiped out the cavity of the uterus and cleared away all clots and *débris*, we should apply to the raw surface left some powerful cauterizing or disinfecting agent. It is better to swab out the uterus with a caustic liquid such as iodized phenol, applied on a wooden probe armed with absorbent wool. Any excess of the caustic that trickles out of the cervix must be at once removed with absorbent wool or gauze sponges.

A long narrow strip of iodoform gauze (one inch wide and one yard long) should be ready at hand, and the uterus firmly packed with it, the end being left hanging out of the cervix into the vagina. This gauze packing serves four useful purposes—it soaks up all excess of iodized phenol, it checks bleeding from

the denuded surfaces, it protects the raw surface from infection from the vagina, and it insures drainage of the uterus. The vagina must be wiped free from clots, etc., and then lightly packed with iodoform gauze. A pad of antiseptic absorbent wool is placed over the vulva and fixed with a T-shaped bandage. The gauze may be removed on the third day, and thereafter the vagina douched night and morning with lysol or iodine water. In all cases the patient must stay in bed for ten days after the operation.

The immediate risk of the operation is extremely small and the ultimate result excellent, *if* the operation be skillfully performed, in suitable cases, and due aseptic precautions be taken. Conversely, if the surgeon use unnecessary force or bungle his work, or disregard contra-indications, or neglect the rules of surgical cleanliness, the patient runs the gauntlet of such disasters and complications as rupture or perforation of the uterus, laceration of the cervix, pelvic cellulitis, pelvic peritonitis, salpingitis, pyosalpinx, septicemia, and pyemia —truly a formidable list! Not one of these evil sequelæ ought, however, to occur if the surgeon follow the indications I have laid down in this paper.

FISSURE OF THE ANUS.

Dr. Dundore, (*Illinois Medical Journal*) writes:

Fully two decades have passed since diseases of the rectum first received recognition, and proper treatment, at the hands of the regular profession; but although, at the present time, surgeons acknowledge the importance of these cases, and their demand for active and more modern treatment, still the general practitioner, for some undeterminable reason, seems loath to give them the attention which their importance demands. That they do need more careful attention and treatment is amply shown by the intense suffering and misery which they cause to so large a proportion of humanity. It is plainly evident, to every conscientious physician, how futile it is to expect beneficial results from the treatment of any case whatever, without first thoroughly examining the patient in order to make a correct diagnosis, and yet, in dealing with a case of rectal disease, many physicians simply listen to a description of symptoms by the patient, and as a result are, in the majority of cases, entirely in the dark as to diagnosis; the symptoms enumerated being common to fissure, fistula, hemmorrhoids and proctitis.

Again, in many instances, in which inspection of the parts is resorted to, it is quite superficial and hurried, and, the malady appearing to be a trifling one, the physician merely prescribes some routine formula; and with what result? The disease is not cured, perhaps not even ameliorated, and dissatisfaction is experienced by both the patient and the medical attendant.

If there is one rectal disease that is slighted more than another it is fissure of the anus, and it is this subject that I wish particularly to refer to; it causes an untold amount of suffering in many cases, is often treated with little or no success, and yet there is no affection of the anus more amenable to rational treatment. In brief, the anatomy of the parts involved is as follows: The anal canal averages about an inch in length, the direction of its long axis being downward and backward; the upper boundary of the canal is formed by the white line of Hilton, above which the mucous membrane of the rectum commences, and is here thrown into vertical folds called the columns of Morgagni; the upper border of the anus is surrounded by the anal valves, which have no fixed size or number and are frequently absent.

Dr. Charles B. Ball, of Dublin, has examined a large number of rectums with reference to these valves and finds them present, so as to be easily detected, in ninety per cent. of normal rectums, varying in size from having a free margin of one fourth of an inch, to such

small dimensions that they cannot be detected; they are distributed very irregularly around the anus, and have no fixed relation to the columns of Morgagni; their extreme irregularity suggests that they are remnants of a developmental process, rather than structures of definite functional significance.

Dr. Ball, to whom belongs the credit of having first lucidly described the cause of fissure, says, *"Many authors have noted that painful fissures apparently commenced in the rectal sinuses, and also that at the lower portion of it there was what is called a small external pile, and have stated that for the cure to be complete this pile must be removed in addition to the usual operation for the cure of the fissure.

These authors consider that the first cause is a longitudinal split from overdistention during the passage of a hard motion, or an abrasion from some particularly hard fragment of feces, and that the presence of a pile or little cutaneous tag at its lower portion is only an accidental complication. I believe, in a large number of cases what happens is as follows: During the passage of a motion one of these little valves is caught by some projection in the fecal mass and its lateral attachments torn; at each subsequent motion the little sore thus made is reopened and possibly extended; the repeated interferenee with the attempts at heaving, ends in the production of an ulcer, and the torn-down valve becomes swollen and edematous, constituting the so-called pile, or, as it is sometimes called, the 'sentinel' pile of the fissure.

Most of us have experienced the little bits of skin torn down at the sides of the finger-nails popularly called 'torments,' and how painful they are when dragged upon. Now the torn-down anal valve resembles closely this condition of the finger, except that in the former it is situated at the acutely sensitive anal margin, and subjected to the periodic strain of a passing motion; it is therefore not to be wondered at that the pain should be so excessive as to seriously affect the general health and render life miserable."

There are, of course, many cases in which a small ulcer is situated wholly on the mucous membrane, and also superficial marginal cracks due to eczema or constipation, but these are *not* true fissures in any sense of the word; they are trivial ulcerations which reply very readily to simple treatment and in many cases get well spontaneously.

The chief symptom of fissure is excruciating pain commencing during a motion of the bowels and continuing sometimes for hours or even a day without cessation, causing profuse perspiration, a weak pulse, and collapse; patients very often have such dread of having the bowels moved that defecation is postponed as long as possible, and as a consequence the suffering is much more acute, due to the hardened feces. Retention of urine occurs very frequently in men and serious disorders of menstruation in women; finally the general health gives way, and dyspepsia, anemia, and an almost continuous pain in the back and loins adds to the patient's misery.

The diagnosis seldom presents any difficulty; no other rectal disease causes such excruciating pain; neuralgia of the rectum might at first be mistaken for it, but the pain is of a different character.

A blood stain may be very often noticed in the stools; if there is any cause for doubt it will promptly be dispelled upon inspection of the parts; the anus being contracted and the sphincter exceedingly hard and tense; examination by the finger being entirely too painful, the patient should be etherized and the anal canal dilated, when the characteristic small ulcer with the accompanying torn-down valve, pile like in appearance, become plainly visible. The methods of treatment which have for many years given the best results, are forcible dilatation of the anus and partial or total division of the sphincter; the first named, dilatation, has proved successful in many cases, not merely because it paralyzed the anal muscle and gave the parts the required rest to facilitate healing, but because the distention has torn completely through the torn-down valve and thereby prevented all further tearing and irritation during the subsequent actions of the bowels.

It can be readily understood that spontaneous cure may take place in the same manner, due to overdistention during a difficult passage, the feces

*Mathews' Medical Quarterly, Vol. 1, No. 2.

tearing completely through this tag of tissue.

Partial or total division of the sphincter, when the incision is carried, not only through the fissure, but also through the so-called pile, acts in the same way by relaxing the sides of the tag and preventing the feces, in future motions of the bowels, from catching in it and reopening the wound.

But numerous cases so treated recurred sooner or later owing to only partial or incomplete tearing through the tag, and it then became generally understood that in most of these cases there was present, at the base of the fissure, what was supposed to be a complicating pile which it was imperative to remove, at the same time that dilatation or division of the sphincter was practiced, to bring about a positive cure; and thus the profession adopts the correct method of treatment without at the time having a proper conception of the cause of the misnamed pile.

With the knowledge of the cause and pathology of fissure which we possess, at the present time, it is obvious that the removal of the torn-down valve is all that is necessary to bring about a cure, and that dilatation and division of the sphincter are superfluous measures.

For the past two years I have habitually treated these cases as follows: After having the patient's bowels relieved by an efficient laxative, and an enema when occasion demands, administer ether and dilate the anus, with the thumbs, sufficiently to obtain a perfect view of the parts; the small ulcer is readily perceived, with the torn-down valve at its base which is often hypertrophied; catch the tag in a pair of forceps and remove it by means of a V-shaped incision having its base toward the ulcer; this is all that is absolutely necessary, but as a rule I scrape the ulcer thoroughly if it appears unhealthy, trim its edges if they are thickened and dust the wound with iodoform or acetanilid, thus producing healthy granulations and thereby accelerating the rapidity of convalescence; it is also wise to examine all the anal valves, and if any project or are of such size that they are likely to be torn down and form other fissures, they should be cut off with the scissors.

PERISCOPE.

MEDICINE.

Formulæ.

For herpes zoster:

℞

Pulv. amyli	ʒiv.
Zinci oxidi	ʒjss.
Pr. camph.	gr. x.
Pv. opii	gr. iv.

M. Sig.: Use as dusting powder.—*Exchange.*

For gonorrhea. Stock solution, local application:

℞

Potassi permanganatis	gr. x.
Aquæ puræ	ʒi.

Sig.: Tablespoonful of this solution in a quart of warm water as an irrigation.

For gastralgia:

℞

Guiacol	
Glycerinæ	āā ʒj.
Aqua menth. vir.	q. s. ad. ʒiss.

M. Sig.: Teaspoonful every four hours, as directed.—*Anders, Medical Annual.*

For scanty and tenacious secretion of bronchitis:

℞

Pilocarpin hydrochloratis	gr. i.
Sanguinarin. nitratis	gr. i.
Syr. tolutani et aquæ	q. s. ad. ʒiii.

Sig.: Teaspoonful four times a day.—*American Therapist.*

Salve for chilblains:

℞

Camphor trit.	1½ parts.
Balsam Peruv.	½ part.
Ol. amygdal	8 parts.
Adip. lanæ	
Aq. rosæ	14 parts.—M.

—*Sack, Medical Bulletin.*

For acute rhinitis:

℞

Pulv. menthol	gr. ii.
Pulv. camphoræ	āā gr. ii.
Bismuth subcarb.	ʒi.
Pulv. sacchari albæ	ʒjss.

Mix thoroughly. Sig.: Use as a snuff several times a day.

For pruritus vulvæ:

℞

Chloral	ʒij.
Bismuth subn.	ʒij.
Aq. rosæ	ʒiv.

M. Sig.: Apply locally.

℞

Argenti nitratis	gr. xx.
Aquæ	ʒi.

M. Sig.: Paint over affected parts.—*Bartholow.*

For gout:

℞

Mag. Sulph.	ʒij.
Pot. bicarb.	gr. xv.
Tr. colchici sem.	♏x.
Inf. buchu	ʒj.

Ft. Haustus. Sig.: To be taken every four or six hours, followed by a large draught of water. —*Med. Record.*

For chronic interstitial nephritis:

℞

Hydrarg. cor. chlor.	gr. i.
Tr. ferri chlor.	ʒij.
Sp. æth. nitros.	ʒii.
Aqua	ʒjss.
Elix. simp. ad.	ʒiv.

Sig.: Teaspoonful in water after each meal.—*Exchange.*

For bleeding gums. After the extraction of teeth, Vian recommends the following as an efficient styptic to check the bleeding:

℞

Chloroformi	ʒi.
Acid. tannic	
Menthol.	āā ʒss.
Tinct. krameriæ	ʒi.
Aqua dest.	q. s. ad. Oj.

—*N. E. Med. Monthly.*

For pneumonia in children. To relieve irritability and restlessness, and to get free elimination and a good action of the kidneys, use:

℞

Vini ipecac	ʒi.
Potass. citratis	ʒss.
Papain	ʒij.
Elixir simplicis	ʒj.
Aquæ dest.	q. s. ad. ʒiv.

M. Sig.: A teaspoonful to an infant six months old every two hours.—*Francis Gibbons, M.D.*

For goitre. Dr. C. Galre has had good results from the parenchymatous injection of one-fourth to one drachm of a mixture thus composed:

℞

Iodoform	1 part.
Sulphuric ether	7 parts.
Ol. olivæ	7 parts.

M. *Revue de Laryngologie.—Med. Bulletin.*

For internal use, per mouth:

℞

Salol	ʒi.
Oil of gaultheria	ʒij.

The dose of this solution is twenty drops four times a day. It may be given in water or sugar, or, preferably, in capsules. The effect of this is to sterilize the urine, which, as it is passed, aids in urethral antisepsis.—*Wyeth, Louisville Med. Monthly.*

NEWS AND MISCELLANY.

Moore's Hill College has conferred the degree of Doctor of Laws upon Dr. W. B. Dewees, of Salina, Kan.

The meeting of the American Dermatological Association will be held at the Hot Springs of Virginia, September 8, 9, and 10, 1896. Everything will be done to make the meeting a success and several papers on interesting subjects have been already promised. Dr. White will open a general discussion on the subject, "What effect do diet and alcohol have upon the causation and course of the Eczematous affections and Psoriasis?"

Physician's certificates will not be recognized at the Philadelphia Health Office unless the name of the deceased is stated therein. Certificates in still and premature births must give the surname of the child. No permit will be issued upon an interlined certificate nor upon one in which any writing has been erased or altered.

Philadelphia physicians may obtain gratuitously the antitoxin of diphtheria for use in certified cases of the indigent sick by applying to Dr. B. Meade Bolton, City Hall. The Board of Health has also made provision for the gratuitous administration of the antitoxin of diphtheria in cases of the indigent sick, but only at the request and under the supervision of the attending physician. Application should be made to Dr. J. Howard Taylor, City Hall. Dr. Royal W. Beemis, formerly of the Municipal Hospital, has been appointed to administer these injections and also to practice intubation gratuitously in such cases.

A convenient remedy for burns is given in an Italian journal, *Incurabili*, by Dr. Eriber to Aievoli who has reported his experience with aristol in the treatment of suppurating wounds, varicose ulcers, suppurative inflammation of glands, frost-bites and furuncles. The drug was always employed in a ten per cent. ointment which was spread on sterilized gauze and applied to the affected area. In several cases of injuries of the head this treatment was especially successful; lacerated and contused wounds at the orbital margin,

which are often so slow in healing, healed with remarkable rapidity, the secretion soon diminished, granulations formed and after a comparatively short time, scarcely any scar was perceptible to the naked eye. In cases of varicose ulcers the results were not quite so good, because the patients were unable to obtain the rest so essential in the treatment. A surprisingly prompt effect was derived from aristol ointment, however, in ulcerating frost-bites. Thus, in a boy ten years old, who presented marked swelling of the dorsal surfaces of both hands, with ulcerations in some places, three applications sufficed to produce complete healing. Excellent results were also observed in burns. Two cases are described in detail relating to extensive burns of the second and third degree, which healed rapidly under applications of aristol ointment, while other remedies had proved inefficient. A special advantage of this treatment was the ease with which this dressing could be removed; owing to the slight secretion and the formation of healthy granulations, the dressings did not become adherent and could be removed without pain. The superiority of aristol over boric acid was constantly demonstrated. In conclusion, the author expresses the opinion that in fresh wounds, burns and frost-bites aristol is deserving of extensive application, as it fulfills all the requirements demanded of a remedy indicated in these conditions. These properties are essentially, lack of toxicity, rapid relief of pain, and rapid formation of a non-contractile cicatrix.

Patients and their friends so often complain and find fault with the fees of their physicians, usually when convalescence is complete.

Medical service for the deserving poor cannot be too small and for the deserving rich cannot be too large says the *Maryland Medical Journal*. No medical man should spring a large price on a wealthy man just because he is wealthy, when he has charged one less well off a smaller fee for the same work, but in operative work the sum to be charged should be named and then if objections are offered the patient able to pay large sums should be given a chance to seek out one who will work for less money.

If a surgeon is known to make high charges and the patients visit him and demand service without asking what the cost will be, no complaint should be made if it is high. No physician is obliged by law to render service if he does not choose to do so and where there is other medical talent at hand there is no cruelty or neglect.

The question of charging clergymen comes up again and again. Many of them pay nothing for medical services and seem to take it for granted that no fee will be asked. Because a man is a clergyman receiving a large salary and with small expenses, is there any reason why he should get free services from a young physician who is struggling to succeed? There is only one answer to this question The clergyman should at least offer to pay and if the medical man prefers to make no charge or thinks it is policy to put the clergyman under obligations to him, then the clergyman cannot be blamed.

On top of all this false sentiment about physicians doing so much good and giving free services to clergymen, comes the statement that Louisville has imposed an income tax on physicians ranging from ten to one hundred dollars, according to the income received.

This of course will be fought, for class legislation should never be allowed. The laborer is worthy of his hire and the sooner that such false ideas of giving something for nothing are brushed away, the sooner will the public begin to understand that because a class of men, and women, too, follow a profession because they love it, there is no reason why their services should be given free or at a greatly-reduced price when the ability to pay a full price is evident.

The ownership of the prescription has been settled by law in New York, Massachusetts and a few other States, all giving the prescription to the druggist. According to an exchange, some time ago a judge of a court in Berlin, Germany, gave a similiar decision. The text of the decision from the judge of the Supreme Court of one of our States is as follows: The question before the court seems to be very simple, indeed. A patient applies to a physician and receives from him certain advice, for which he tenders a fee. The physician hands a piece of paper to the patient, purporting to be a written order for certain goods called drugs, which order is filled by a merchant or apothecary. The payment of the fee and the delivery of the goods or drugs terminates the verbal contract, and the druggist keeps the prescription as an evidence that the contract has been fulfilled, as far as he is concerned. The druggist can, if he so please, on his own responsibility, renew the drugs, for he is but a merchant, and has a perfect right to sell drugs to any one and in any shape. He need not keep the prescription, nor is he bound to give a copy, but should error occur, he has no protection in case of suit.

Peroxide of Hydrogen is discussed by Dr. Warren Brown, of Tacoma, Washington, in a paper on "Peroxide of Hydrogen," read before the Washington State Medical Society, and published in the *Medical Sentinel*, of Portland, Ore., February, 1896. After alluding to its method of manufacture, he speaks of it therapeutically as follows:—

Gonorrhea may often be aborted by using a full strength hydrogen dioxide injection immediately on the very first appearance of discharge. The injection should be used four to six times in twenty-four hours and retained for five minutes.

Cystitis, where pus is voided with the urine,

often yields rapidly to injections of a solution containing two ounces to the pint.

Otitis media is treated by hydrogen dioxide solutions in various strengths from 6 per cent. upward.

Eye diseases, where there is a purulent external inflammation, are constantly being benefited by this agent. The Wills Eye Hospital, Philadelphia, uses a 50 per cent. strength of the so-called 15 volume solution. Blepharitis marginalis is quickly cured by touching the edges of the lids once or twice daily with a strong solution, care being taken to avoid getting it into the eye.

Ulcers of all kinds improve rapidly under its use, and for treating and cleansing venereal sores, as chancroids, etc., it is of great service.

Empyema, especially where there is from the first a stinking sanious exudation following incision, is very satisfactorily treated by washing out the cavity with a solution from one-half to full strength.

In appendicitis, the abscess cavity is cleansed with this solution by many operators, in preference to any other antiseptic. Robert T. Morris, of New York, has laid special stress on the value of the peroxide in these cases.

In follicular tonsillitis, the use of a spray, diluted just enough to prevent the smarting sensation, and alternating with this, one of the alkaline antiseptic sprays, or gargles, is a very satisfactory procedure.

Diphtheria and all naso-pharyngeal inflammations, where there is a pseudo-membranous and septic condition, have been treated very widely by means of this agent. I like the plan of Jennings, in Detroit, who uses an irrigation of an aqueous solution of one-eighth each of hydrogen dioxide and listerine. He throws the solution into the pharynx with an all-soft rubber syringe every one, two or three hours. The plan is an admirable one for treating children, and the combination is pleasant and effective.

Atrophic rhinitis is benefited remarkably by the use of a 40-per cent. spray. It should be used a few minutes before the employment of the usual alkaline, stimulating spray, and the powder insufflations. In this way the scabs are loosened, muco-purulent secretions are dissolved, and a stinking breath is converted into one that is pure and sweet.

In acute cases of eczema of the leg, we find this agent of the utmost value. The tissues are inflamed, hot, swollen and oozing, the itching is almost unendurable, the odor is offensive. To secure the best results the limb is elevated, and a diluted solution of the peroxide is applied frequently, with cheese cloth, gauze or an atomizer. In two or three days a marked change for the better will be apparent, the pruritus is allayed, the purulent exudation is checked, and all inflammatory symptoms are subsiding. At this stage we begin the use of a soothing ointment, such as the boracic acid or zinc oxide, using lime liniment to wash the parts instead of water. Under this treatment, combined with rest, we will see our patient rapidly cured.

Eczema of the anus will rapidly improve if the fissures are touched twice a day with this solution, then dried gently with cotton, and a glycerite of lead application made. In nearly every form of acute eczema in the first and second stages the peroxide will give us the keenest satisfaction. The regular solution is diluted with two or more parts of water. Hydrogen peroxide is an excellent anti-pruritic and for this purpose it is widely used.

The hemostatic value of this drug, as pointed out by Dr. Emerson Brewer, of New York, I can endorse. In operations on the nose and throat I have upon two occasions been enabled to check a persistent hemorrhage, when Monsel's solution and plugging had failed. At present I am in the habit of applying the full strength hydrogen peroxide after every operation on these parts. It is of special value after sawing out a deviated septum.

For flushing out a mammary abscess cavity this agent is invaluable.

Applied to the cervix uteri, adherent mucus is removed and our medications can be applied.

When it is inadvisable or impossible to make a complete opening of a fissure or abscess, irrigation with the peroxide will be found superior to all other antiseptics.

We have in peroxide of hydrogen a prompt, safe and efficient germicide. By its oxidizing power it rapidly decomposes pus, diphtheritic membranes, and other morbid putrefying material. It is a thorough deodorizer, and as a cleansing agent for foul wounds, abscesses, etc., it has no equal.

Of the different preparations of peroxide, Marchand's has been most uniformly satisfactory.

Since writing the foregoing paper, my attention has been called to hydrozone, a stronger solution of peroxide of hydrogen, which for some months I have been using with much satisfaction.

Intestinal worms, particularly ascarides, if placed in water of 45° to 68° F., become stiff, curved, or coiled up, and insensitive to external stimuli. If then the temperature be elevated to 98.6°, they begin to present slight movements, and if it be increased to 102°, 104° or 106°, they become lively and energetic, so that their motions seem to be rather a discharge of energy. These movements, though chiefly due to the high temperature, might also be aided by certain morbid processes, as typhoid fever, etc. This increased activity may cause them to traverse intestinal ulcers or to pass into abscesses and thence be evacuated. A worm will not penetrate a normal intestinal wall, but if an opening be present, it will pass through. —*Dr. Demateis, in Gazetta Medica di Torino.*

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2062. SATURDAY, SEPTEMBER 12, 1896. VOL. LXXV—No. 11

ORIGINAL ARTICLES.

THE TREATMENT OF ALCOHOLISM.

J. M. FRENCH, M.D., MILFORD, MASS.

So long ago as 1790, Dr. Benjamin Rush, of Philadelphia, then perhaps the foremost American physician, advocated the theory that alcoholism is a disease, requiring both medical and moral treatment. In 1809, he published two essays on "The influence of physical causes upon moral faculties," and "An inquiry into the effects of ardent spirits upon the human body and mind," in which he elaborated this theory. In 1812, he published a work on "Diseases of the mind," in which he recommended "the establishment of a hospital in every city and town in the United States for the exclusive reception of hard drinkers;" who are, he adds, "as much objects of public humanity and charity as mad people; and religious, moral and physical remedies should be employed for the complete and radical cure of their disease."

He was thus one of the first to recognize the disease of alcoholism. And, so far as his conception of the character of the disease is concerned, and the nature of the remedies required for its cure, they have hardly been improved upon to this day.

It was, however, more than half a century from this time before the first step was taken toward the realization of his plan, in the establishment of the pioneer asylum for the scientific medical treatment of alcoholic inebriety, at Binghampton, New York, in 1864, under the management of Dr. J. Edward Turner, of Maine. In 1870, the American Association for the Study and Cure of Inebriates was organized in New York City, having for its fundamental principle the declaration that "inebriety is a disease, and should be treated as such." Seven years later the *Journal of Inebriety* was established as the organ of this society. This journal, published in Hartford, under the management of Dr. T. D. Crothers, has been the medium through which most of the literature pertaining to this subject has found its way to the American public—at least until within a few years past. To its columns must be referred all who desire to study the opinions of the foremost thinkers of the age concerning the disease of inebriety and its scientific medical treatment.

Within the past few years the subject

of the disease of alcoholism and its medical treatment has been brought prominently to the notice of both the general public and the medical profession, by the rise, progress and decline of the so-called "gold cure" of Dr Leslie E. Keeley.

Dr. Keeley's conception of the nature of inebriety, which he limits to "the cry of the nerve-cells for alcohol," and which he claims to be in no sense hereditary, is quite unlike that which is advocated by the American Association for the Study and Cure of Inebriates; while his egotistic dictum, "Inebriety is a disease, and *I can cure it*," his absurd claims of 100 per cent of cures and not over 5 per cent. of relapses, his use of secret formulæ, and his offensive and unprofessional methods of advertising, all stamp him as a charlatan and pretender of the first degree, rather than a scientific physician and lover of truth. As to the merits of his treatment, and the reality of the cures effected by him and those who have followed in his footsteps, it must in all honesty be said that many thousands of sober men who once were drunkards—a large proportion of them members of our own profession—have testified in their favor from personal experience.

For my own part, a considerable observation of these results, and some degree of investigation into the methods employed, have convinced me that, mixed with a vast amount of humbug and absurdity, the Keeley cure and kindred secret systems have in them much that is of real merit, and which is worthy of being appropriated for the benefit of scientific medicine.

Not the least of the good with which I believe they must be credited, consists in their having brought home to the popular mind the conviction that the drunkard's unnatural appetite for alcohol can be removed by proper medical treatment; and also in having greatly stimulated efforts on the part of the regular medical profession to obtain a more perfect knowledge of the pathology and treatment of alcoholic inebriety.

It is true that there is nothing new about the idea of the curability of alcoholism, which, as I have shown, has been held by eminent physicians for a hundred years. Neither is there anything essentially secret about the remedies employed, as is shown by the equally good results which have been obtained by Keeley and by those who have imitated him. Indeed, it is safe to say that a fairly complete knowledge of the different secret systems, extending, in some cases, even to the exact formulæ employed, is open to any one who cares to take the time and pains to search for it.

Undoubtedly, the most important of all the drugs employed is strychnine. Its well-known properties point the way to its use in this disease. It is the most powerful nerve-tonic known to the medical profession. It acts upon the entire nervous system, with a special tendency to the spinal nerves, and the cardiac, respiratory and vaso-motor centres. It exalts the functions of the spinal cord and renders the mind more clear and active. It increases intestinal peristalsis, and aids elimination.

Briefly stated, its basic action is almost directly antagonistic to that of alcohol. It is a tonic and a true stimulant, as opposed to an anesthetic and a paralyzant. Surely this is an agent which can be used with advantage in the treatment of alcoholism. The system of the inebriate is relaxed in every part, paralyzed in a greater or less degree, unable to carry on its functions properly. Mentally and physically, the drunkard is dull, nerveless, incapable. There is no better description of an acute case of alcoholism than that of the gamins on the street, when they say of the drunkard, "He is paralyzed." Not more truly could this be said of the subject of anesthesia, unconscious under the surgeon's knife. In his moments of comparative sobriety, his paralysis is less evident to the eye, less complete in degree, but just as real. Drunk or sober, this is the essence of the inebriate's condition, that he cannot control himself. His faculties are all there, perhaps, but he cannot use them. He has less vigor and endurance; his hands cannot do fine work, or execute delicate movements. His mind is less clear, and does not obey his will. His moral sense is weakened; it no longer clearly perceives right and wrong, or when perceived does not control his conduct. Instead of that will-

power, which is the glory of manhood, the motive force which controls his actions is the craving for alcohol. To this he is an abject slave, and for it he will descend to any level of shame or disgrace.

It is in such a condition as this that strychnine finds its proper field of work. By its use the tissues are revivified. As a result of its action, every nerve and muscle is keyed to its highest pitch; the mind acts more clearly; the man is raised out of his soddenness and indifference; the world takes on fresh colors; life begins to possess new interest. Even the special senses are stimulated—the sense of smell in particular being rendered abnormally active. The feeling of depression and inability gives way to one of lightness and elasticity. The terrible craving for alcohol, that dull, horrible gnawing at the stomach, that fearful, all-gone sensation, which in the drunkard's previous experience is relieved by nothing but some form of alcoholic drink, begins to grow less, and soon disappears; while in its place comes a sense of well-being, of elevation, of ability, of power to accomplish, which is quite unlike that false sense of confidence which comes with the first glass of intoxicants, and so much superior to it that the man would not willingly drown it in alcohol. Now the appetite is gone, and the man no longer seeks or desires that for which but yesterday he would have periled body and soul. To this succeeds a feeling of disgust, of repugnance to the taste or the very smell of all kinds of spirituous liquors, which cannot, in most cases, be any longer retained upon the stomach.

Food is now demanded instead of whisky. The stomach returns to its natural condition. Food is not only taken, but assimilated, and the system is nourished. Sleep comes again to the long-time sleepless wretch. The body is built up, lost flesh regained. Even the will-power and the moral nature seem to be stimulated. Yet, after all, when we come to analyze it, the effect is only a strongly-marked example of what we are familiar with in patients recovering from chronic, wasting and debilitating diseases, and shows simply that the whole physical system is being built up, and the man restored to health.

The use of strychnine in alcoholism, as I have said, is not due to Dr. Keeley or his "cure." Many even question whether it finds any place in his treatment. While some of the effects which we have described are evident in the graduate of the Keeley Institute, others are as noticeably absent. But be that as it may, it was in use before his day, and in lands where his name has not, even yet, become a household word. It is the basis of the so-called Russian method, which is perhaps the oldest of the specific modes of treating alcoholism. Dr. Portugalow, of Samora, in Austria, so early, I think, as 1890, reported that he had treated and actually cured 455 cases of dipsomania with hypodermatic injections of strychnine nitrate. He expresses his unbounded confidence in the remedy by saying that "he knows of reliable and specific remedies for two affections only: strychnine for the various forms of alcoholism, and quinine for malarial fevers."

About the same time Dr. W. N. Jergolski published his experience with the strychnine treatment of dipsomania. His cases numbered but ten, but included men of widely-different vocations—as farmers, merchants, ministers, etc. His results were most surprising. Topers who had been addicted to drink for many years, some of them even for decades, as a result of this treatment, became endowed with an invincible repugnance for alcohol, and could no longer bear spirituous liquors. Not only this, but serious and long-standing complications, such as intestinal catarrh and incontinence of urine, disappeared entirely, and the subjects were restored to health.

In our own county, many cases have been reported of this treatment within the last few years.

Dr. R. M. Phelps, of the Minnesota Hospital for the Insane, reports in the *Hospital Bulletin* the result of his investigations and experiments, as follows:—

1. Nitrate of strychnia, taken steadily in large doses, has a tendency, first, to impair the appetite for liquor; later, to make liquor an incompatible or sickening agent for the time being.

2. The systemic effects of nitrate of strychnia seem to be not injurious; yet

I would be far from advising any private or indiscriminate use.

In the *Journal of Inebriety* for January, 1894, Dr. J. Bradford McConnell reports in detail twenty-five cases of alcoholism treated mainly with strychnine nitrate hypodermatically. Other remedies were given internally, but not for their specific effects. His conclusions were, that simultaneously with the use of this remedy, the craving for alcohol in inebriates diminishes, and in a few days is completely gone; also that through the withdrawal of the poisonous beverages and the tonic effects of the strychnine, there is a more or less rapid restoration to sound physical health and mental power. But this desirable result did not prevent the relapse of a very large proportion of his cases within eleven months. Consequently, he considers that the inhibiting power of strychnine upon the appetite for alcohol is not permanent.

Dr. William B. Breed concludes an article on this subject in the *Medical News*, as follows:

1. We have in this drug a remedy that actually, for a period yet undetermined, removes the desire for alcoholic stimulation in the chronic inebriate, and that without the least effort on his part.

2. A remedy that removes the distress and gnawing at the epigastrium, so common upon the withdrawal of alcohol.

3. A remedy that tones up the nervous system, allays the insomnia, the flighty and other bad feelings in the head, the mental disturbances and the tremulous agitation and uncertainty of voluntary motion due to the withdrawal of stimulants.

4. A remedy that brings back the appetite and general physical vigor of the body.

5. A remedy that temporarily transforms a wholly demoralized creature into a man.

6. A remedy that is of great value in acute attacks of alcoholism.

7. Incidentally, a remedy that is an exceedingly good and safe heart tonic.

8. A remedy that exerts a moral (?) influence upon the patient, giving him what he had before wholly lost, to wit: hope, enthusiasm, self-confidence and courage, where before was despondency, abandonment and despair; a steady, straightforward gaze, and a bright, youthful expression of the eye, which replaces the shame-faced, sneaking, apologetic air of total depravity in the chronic inebriate.

9. *Not* a remedy which will oblige a man to abstain from drink if he does not want to.

The second drug which constitutes an essential element in the treatment of alcoholism, and the one next in importance to strychnine, is atropine, or some one of its associate mydriatics, as hyoscyamine or hyoscine, daturine, duboisine, or mandragorine. Atropine is the best representative of the class, and the most commonly used. In many respects it is synergistic with strychnine. The two, with digitaline, constitute the most important tripod of nerve stimulants in the materia medica. Atropine acts powerfully upon both the cerebro-spinal and the sympathetic systems. It is, says H. C. Wood, "the one remedy which we have, which will summon any power there may be in the vaso-motor centers into immediate action." It also lessens maniacal excitement and delirium, with the form of insomnia which accompanies these conditions. It causes cerebral hyperemia, and in this way aids materially in lessening the desire for alcohol, since it is a well-known fact that those full-blooded persons who are subject to a "rush of blood to the head" when they indulge in alcohol are obliged to be very sparing in its use, on account of the discomfort which it causes them. It also produces dryness of the mouth and throat, and directly affects the terminal filaments of the sense of taste. In this way it helps to produce a distaste for alcoholic liquors.

Dr. Harold N. Moyer, of Chicago, in a paper read before the Association for the Study and Cure of Inebriates, after considering the formulæ used in one of the "Gold Cures," and which he erroneously assumed to be the Keeley Cure, concludes that "the chief active ingredient, and the one that is leveled at the appetite for liquor directly, is the atropine; the others are tonics and synergists. The effects of belladonna, or atropine, are those of a gentle stimulant, in small doses; in larger quantities, it is an hypnotic, and if pushed, it is a

powerful, depressant poison. It also produces a dryness of the lips, with a parched condition of the tongue, lips, fauces and pharynx, with a huskiness of the voice. In dangerous doses it causes nausea and vomiting."

As has been suggested, certain other of the mydriatics are sometimes used, either as substitutes for atropine or in addition to it. Of these, hyoscine is considered especially useful in allaying excitement and producing sleep in the acute stages of the disease. H. C. Wood speaks of this drug as especially useful in cases of insomnia with delirious excitement, such as occurs in acute mania and other forms of insanity. In delirium tremens, in some cases, he has found it to act most favorably. Dr. Kny suggests that when insomnia is accompanied by motor excitement, hyoscine succeeds in bringing about sleep; but in cases characterized by depression, inaction and lack of movement, it has no such effect.

According to the best information which I have been able to obtain, and which corresponds closely with the conclusions to which I have been led by my own investigations of these remedies, the principal solution for hypodermatic use in the "Keeley Cure," and the one to which the term "Gold Cure" is especially applied, is composed mainly or wholly of either hyoscine or hyoscyamine. If this be so, it doubtless possesses, not less than strychnine, the power of abolishing the craving for alcohol. It does not, however, possess the wonderful restorative properties of that drug, which may account for the better physical condition in which those patients are left who are treated by those systems having strychnine as their basis.

Apomorphine is useful for emptying the stomach of alcohol, and "sobering up" in acute cases. It may also be used to create nausea and increase disgust at the taste and smell of alcoholic drinks.

Pilocarpine promotes in a high degree the secretions of the perspiratory and salivary glands, and may be used with advantage in some cases to hasten the excretion of alcohol and other poisonous products from the system.

Caffeine is a powerful stimulant to a fagged-out brain and a wearied heart, specially valuable in cases of depression of spirits, frontal headache, and inability to concentrate the thoughts.

Morphine may be required in some rare cases for its sedative and hypnotic effect, but as a general thing these results are better secured by tincture of hyoscyamus, chloral, and the bromides.

Most of the remedies thus far spoken of are usually administered hypodermatically; not, indeed, because the effect thus produced differs in kind from that resulting from the use of the same drug when administered internally, but because it is more direct and positive in its action when so given; and especially because the hypodermatic administration of the medication at stated intervals during the day, necessitates that the patient should be almost constantly under the eye of the attending physician, who is thus enabled to watch the progress of the case, and make such changes in treatment as are demanded by the different phases of the disease, and the idiosyncrasies of the individual. This last reason is a very important one, and has a direct bearing upon the success of the treatment.

The remaining remedies are commonly given by the mouth, and most of them are not suited for hypodermatic use.

Gold is popularly supposed to be the principal ingredient in all of the so-called "gold cures." On the other hand, it is claimed that chemical analyses of the various remedies used in the Keeley "gold cure" fail to show the presence of any gold. Certainly, however, it is used in many instances, both in secret systems and those whose formulæ are open to inspection. The common form is the double chloride of gold and sodium. I have, myself, treated patients both with and without the gold, and while I have not been able to discover any marked differences in the immediate results obtained, I am of the opinion that by virtue of its action on the cerebral circulation and the liver, and its general alterative and tonic effects, it does add to the completeness and permanency of the results secured. According to Bartholow, in small doses it promotes the appetite and digestive ability. It also increases the urinary secretion and induces perspiration. The functions of the mind become more ac-

tive under its use, and a state of cheerfulness is induced. A red and glazed tongue, epigastric pain increased by taking food, and a tendency to relaxation of the bowels after taking food, are indications for the use of gold and soda in small doses. Catarrh of the duodenum, catarrh of the bile-ducts, and jaundice dependent thereon, are also symptoms which may usually be removed by small doses of the salts of gold. If these statements are true—and they are confirmed by other authors—they certainly constitute a well-marked indication for the use of gold in alcoholism.

Cinchona, in the form of tincture, elixir, or infusion, usually forms the vehicle for the internal medication, and is of value through its well-known tonic properties.

Hydrastis, or its alkaloid hydrastin, is claimed by many to possess special value in these cases. Hare, in his work on therapeutics, says: "In the chronic gastric catarrh of drunkards, in duodenal catarrh with or without jaundice, or chronic catarrh of the intestine with ulceration, it is an excellent remedy." Bartholow says: "It is one of the best remedies for the stomach catarrh of chronic alcoholism, and it is probably the best substitute, if given in sufficient doses, for the alcoholic stimulant when its habitual use is to be abandoned."

Aloin, or aloes in any form, is a slowly-acting purgative, affecting chiefly the large intestine, and also increasing the secretion of bile. As abundant excretion is a *sine qua non* in the successful treatment of inebriety, these actions fit it for frequent use.

Muriate of ammonia has a special action on the liver, increasing the secretion of bile (Ringer) and lessening hyperemia. According to Bartholow, it is of value in catarrh of the stomach and bowels, and exerts a favorable effect on the first stages of cirrhosis of the liver, which is so commonly found in drunkards.

Coca is specially relied upon by some for the temporary relief of the burning thirst for alcohol, while the condition which causes it is being removed by other remedies. Waugh says: "The indescribable gnawing at the stomach, the hypochondriacal and melancholic sensations following the cessation of alcohol, are dissipated by coca as by no other remedy. As a means of tiding over this dangerous period, while we are rebuilding the physical and moral structure of our patients being, coca is invaluable." It is important to remember, however, that the proper time for this use of it is limited to the early stages of treatment, and that its continued employment is liable to result in the formation of a habit.

In these remedies, whose general and special actions have thus been briefly hinted at, we have the foundation stones, upon which to construct a rational and scientific medical treatment of the disease of alcoholic inebriety.

In succeeding papers, I propose to consider some of the accessory measures employed, and also the general results which are obtained in the treatment of alcoholism.

As a result of prophylactic vaccination in this State, according to the annual report of the secretary of the State Board of Health, it appears that small-pox prevailed at only nine points in the State during the year 1895. In Philadelphia there were 396 cases with fifty-five deaths. In Ashbourne the first case was mistaken for one of chicken-pox, and in the failure to adopt suitable precautions the infection spread quickly. As a result of this and a similar previous experience, a resolution was adopted by the board expressing the desirability in all cities having hospitals for contagious diseases to arrange for the practical instruction of medical students. Typhoid fever prevailed with its usual frequency. An outbreak at Oil City illustrates the resistance of the typhoid bacillus to cold and its portability in large streams for considerable distances. The disease appeared in those parts of the city that received their supply of water from the Allegheny River as soon as the ice began to melt and the material that had collected at various points along the river was washed into the stream by the melting snow—typhoid fever having prevailed during the winter in a number of towns situated higher up. There was an increased prevalence of scarlet fever, which in some places was of a virulent type. Diphtheria also prevailed largely, attended with a high mortality.

ARTIFICIAL FEEDING OF INFANTS.*

H. F. SLIFER, M.D., NORTH WALES, PA.

Statistics from the registered deaths in England, compiled by Dr. Hugh R. Jones (*Brit. Med. Jour.*), show that 42 per cent. of infant deaths may be referred to digestive disorders. Infant mortality in Norway and Sweden, where almost every child is nursed by its own mother, is but 10 per cent. In Wurtemberg the mortality of breast-fed children is 13.5 per cent., of artificially-fed 42.7 per cent. In Munich, of the total number of deaths, 15 per cent. are of breast-fed children and 85 per cent. of artificially-fed. In lower Bavaria, where maternal nursing is the exception, the mortality is 50 per cent.

An examination of American statistics proves the applicability of the above statement to this country. If death-rate has any claim to direct professional attention, it appears to the writer that this is a strong appeal to enlist our interest in behalf of the dying children.

The past teaches us that the evil of artificial feeding of infants is increasing as civilization advances. We should recognize the fact that a cause or a combination of causes that destroys 20 to 50 per cent. of the infant population, is a question of vital importance, involving the welfare of the State as well as the individual. At no time of life is food so important, and nutrition so much desired, as during the constructive period of early infancy. At this stage, the physical foundation for the future structure is formed. If nutrition is impaired at this age, the body will be enfeebled, the organs defective, and consequently growth and development will be imperfect, with no power to resist the baneful influence of disease. The food and methods of feeding are responsible in a great degree for this condition. It is the function of the physician to know the nature of the food, how produced and how presented to the market, and in what manner it is given to his helpless patient. Food for the infant should be a fluid containing all the elements necessary for nutrition; sterile, faintly alkaline, at a temperature of 100° F., and furnished in proper amount, so as not to distend the stomach beyond its physiological limit.

Experience teaches that the best substitute for mother's milk is cow's milk, modified and adapted to the age and peculiarity of the child. Cow's milk differs from human milk in several important particulars. According to recent analyses published by Dr. Rotch, of Boston, the constituents of the two are as follows:

	Human.	Cow.
Reaction	Alkaline.	Acid.
Bacteria	Absent.	Present.
Specific gravity	1031	1032
Fats	4.00	4.00
Sugar	7.00	4.50
Proteids	1.50	4.00
Ash	.15	.70
Total solids	12.65	13.20

The reaction of cow's milk, as served to the public, is acid, owing to the action of bacteria on milk sugar. Bacteriologists have found that souring of milk is due to the presence of a hundred different kinds of micro-organisms. The addition of an alkali is, therefore, indicated to counteract this acidity. Lime-water, soda bicarbonate, and, if constipation is present, soda salicylate, soda phosphate or magnesia are preferable. The amount should be sufficient to render the milk alkaline. "It has been demonstrated that about two hundred different kinds of bacteria exist in market milk. That, as ordinarily drawn from the cow, the milk, by the time it is in the pail, will contain anywhere from 1,500 to 6,000,000 bacteria per cubic inch."[1] Many of these, fortunately, are harmless, but of no advantage to the milk for infant-feeding, and favor fermentation. Other forms are pathogenic and are the direct cause of many gastro-intestinal disorders in children.

[1] Pennsylvania Report of the Department of Agriculture.

Some bacteria are important to the butter-maker, since they are the agents by which cream is ripened and the flavor of butter produced. Also, the flavor of the different varieties of cheese are the result of bacterial action. There is again another class of bacteria whose effect is deleterious. They produce decomposition products, sometimes bitter, sometimes putrefied, and again decidedly poisonous. Milk thus contaminated must be pasteurized (167° F.) or sterilized (212° F.) to arrest bacterial growth.

It is possible, by extreme precaution, to have milk nearly free from bacteria, postponing fermentation for an indefinite time, and thus removing one of the objectionable features of artificial feeding. Sterilization would be unnecessary and the milk would be in its natural state. The percentage of fats in human and cow milk are about equal. A reduction in the per cent. of fat is not objectionable so long as the child is properly nourished. If, however, more fat is indicated and constipation is present, top milk or cream should be added. Cow's milk is poor in sugar. This being an important element for the production of force and readily digested, it should be supplied in the form of milk or cane sugar. The proteids are abundant in cow's milk, which renders it difficult of digestion by the infant. It must, therefore, be diluted, so as to agree with the percentage of proteids in human milk.

To be successful in the practice of infant-feeding, the milk must be of the best quality, taken from a mixed herd, of ordinary breed, fed upon the most approved rations, and cared for in the best possible manner. The milk should be taken from the cow as free from contamination with dirt and bacteria as possible. Then at once aerated and artificially cooled and temperature maintained at a point not above 50° F., until it reaches the consumer. If milk is strictly fresh and pure and properly cared for, it is not necessary to sterilize, but simply heat to the temperature of the body (100° F.) when served to the child.

The mode of feeding should be simple. Infants, under one year of age, should feed exclusively from a bottle. The bottle should be plain, with a short neck, and of a capacity adapted to the age of the child. The bottle may be graduated, so that the proper amount may be given at each feeding. The nipple should be plain rubber with a small aperture. The child while nursing should repose in a comfortable position, and be attended by an intelligent person who will remove the bottle so soon as the supply of milk is exhausted. The bottle should be immediately cleaned and placed in water, or water with the addition of soda or borax, until the next feeding.

The quantity prescribed at each feeding must not exceed the capacity of the stomach. Dr. L. Emmett Holt's observations show that at birth the average capacity is one ounce, and a gain of one ounce per month up to six months, and for every subsequent month one-half ounce up to one year; hence at this time the stomach is capable of holding nine ounces.

In regulating the amount of milk, we should not ignore the fact that individuals differ in their physiological demand. The following index has been of service to me in adjusting the proper quantity:—

Age.	Interval.	Amount.
1 month.	Every 2 hours during the day.	1 oz.
2 months	" 2 " "	2 "
3 "	" 2 " "	3 "
4 "	" 2½ " "	4 "
5 "	" 2½ " "	5 "
6 "	" 2½ " "	6 "
12 "	" 3 " "	6 to 8 "

The fact that cow's milk is rich in proteids, fats and salts, renders it of practical importance to modify it by dilution, so as to resemble human milk. The water employed for dilution must be boiled to destroy organic matter which it may contain. Water not only acts as a diluent, but alters the physical condition of the casein and renders it more digestible by preventing the formation of large coagula during peptogenic digestion. The degree of dilution necessarily depends upon the composition of the milk, the age and condition of the child. The following is my rule for dilution:—

1 month,	1	part milk to	3	parts water.
2 months,	1	"	2	"
3 "	2	"	2	"
6 "	3	"	2	"
9 "	3	"	1	"
12 "	6	"	1	"

If all the elements of the milk are

properly digested, the quantity of water is gradually reduced to the proportion of the succeeding month. The strength of the milk is adjusted to the digestive capacity of the child. Milk that is properly diluted so as to give the correct per cent. of proteids, requires the addition of such ingredients as are deficient.

Sugar should be added to the amount of ten or fifteen grains to the ounce. If a good quality of milk is used, it is seldom necessary to add cream.

To be successful in infant-feeding, specific rules must be observed. Uniformity in dilution and scrupulous care in the preparation of milk, is indispensable. In my practice, I use printed rules, that I give to the attendant, and insist on strict compliance with them, and thus avoid error and neglect.

COMMUNICATIONS.

EXTERNAL HEMORRHOIDS, WITH SPECIAL REFERENCE TO THEIR TREATMENT.*

LEWIS H. ADLER, JR., M.D.,† PHILADELPHIA.

The classification of hemorrhoids into internal and external depend not only on the fact that one is formed within and the other without, the cavity of the rectum, but also on the anatomical relations of the majority of such tumors to the internal and external hemorrhoidal veins respectively.[1]

External hemorrhoids are divided into (*a*) the venous, (*b*) the cutaneous, and (*c*) the compound.

(*a*) The venous variety occur in three forms: (1) as a marked varicose condition of the external hemorrhoidal plexus; (2) a thrombosis of this plexus; and (3) as a clot of extravasated blood due to a rupture of a varicose vessel.[2]

(*b*) The cutaneous pile consists of a hypertrophy of the skin surrounding the anus. It frequently is the result of a venous pile, a fold of skin being left after the clot has been removed, either by absorption or operation. When uninflamed it occasions no great inconvenience, but when aggravated by improper diet, irregular habits, uncleanliness, etc., it veritably causes the patient, as stated by the Messrs. Allingham, ("Diseases of the Rectum," fifth edition, London, 1888, page 83), an amount of suffering quite disproportionate to the pathological appearances. Doctor J. M. Matthews, ("Diseases of the Rectum, Anus, and Sigmoid Flexure,") states that in his opinion the cutaneous pile is not an excrescence, as some authorities think, but an enlargement of the superfluous tags of skin sometimes found around the anus.

(*c*) The compound external pile is a term that should be restricted to those tumors which are frequently found and justify the separation into a distinct class, in which the hemorrhoid is largely external but is also probably internal. Dr. Charles B. Ball, ("The Rectum and Anus, their Diseases and Treatment,") applies this name to a form of external pile which is found to consist principally of connected tissue, and which contains several thrombosed veins of considerable size, instead of one central cavity as in the common variety of venous hemorrhoid. I believe that the form I have described and not the pile de-

* Read before Pennsylvania State Medical Society, May, 1896.

† Professor of Diseases of the Rectum, Philadelphia Polyclinic; Surgeon to the Charity Hospital and to the Out-patient Department of the Episcopal Hospital, Philadelphia.

1 A thorough and most instructive article bearing upon the subject of "external piles and their relation to the internal hemorrhoidal veins," by Walter J. Otis, M.D., Surgeon to the Department for Diseases of the Rectum, Boston Dispensary; is to be found in a pamphlet reprinted from the February, 1895, issue of the *American Journal of Medical Science.*

2 The existence of this form of hemorrhoid is denied by some authorities, but I have seen a sufficient number of such cases to warrant the classification given.

scribed by Dr. Ball should be understood when the term compound external hemorrhoidal is employed.

Symptomatology. Unless inflamed, external hemorrhoids (with the exception of the thrombotic variety), give rise to no pain and but slight inconvenience. Any annoyance occasioned is largely due to the mental effect upon the patient that something abnormal exists about the rectum. In the acute stage, a thrombotic pile is always attended by some pain (due, probably, to distension), and considerable constitutional disturbance.

All varieties of external piles, when inflamed, are accompanied by pain; spasmodic contraction of the levator ani and the sphincter muscles; a disagreeable sensation as if there was a foreign body about the rectum, which induces more or less tenesmus and straining, as well as a feeling that the bowels must be evacuated; finally, the general health is affected and reflex symptoms are often present.

The treatment of external hemorrhoids embraces more than mere attention to the local condition. Permanent relief from the trouble, or the most satisfactory results, are obtained from a consideration of the causes inducing the malady; and the success attending any plan of treatment depends as much upon the correction or removal of these factors as it does upon the local treatment.

Chronic constipation, the first step to take in correcting a predisposing and exciting cause must be by establishing regularity in the time of going to the closet. Patients should be directed to go at the same hour daily, whether the desire exists or not. Physical exercise is another important factor in correcting costiveness. Certain articles of food often aid in the removal of this affection, such as the fruits,—of which prunes, apples and oranges are the best.

Medically, the treatment of constipation covers a vast range of remedies. No one plan can be outlined that will benefit all, or even the majority of persons so afflicted. Some authorities are strongly opposed to the continual use of laxatives in these cases and I do not indorse their employment, except where other measures fail, and then only advise the use of the mildest remedy and in the smallest possible dose to effect the desired result. Yet, I am sure that the continued use of laxatives is necessary in some cases of obstinate constipation.

Sometimes a tumblerful of hot or cold water taken before breakfast will nicely regulate the bowels. If this should fail, the mineral waters may be tried. Fluid extract of cascara sagrada with equal parts of glycerin, in doses of thirty to sixty drops at bedtime, will often prove useful.

Among other prescriptions which I have found beneficial are the following:

℞

Ext. nux vomicæ . . . . . gr. vi.
Ext. belladonnæ . . . . . } āā
Ext. physostigmatis. . . . . } gr. ij.

Mix. Make twenty-four pills.
Dose—One pill before meals.

℞

Ext. cascara sagrada . . . . . gr. xij.
Ext. nux vomicæ . . . . . gr. iij.
Ext. belladonnæ . . . . . } āā
Res. podophyll . . . . . } gr. ij.

Mix. Make twelve pills.
Dose—One to two pills at bedtime.

If dependent upon a gouty or uric acid diathesis or functional derangement of the liver, the treatment must be directed towards relieving these conditions. In all cases the diet should be carefully regulated. Meat should be taken in small quantities; rich gravies, sauces and pastry are to be avoided, as well as all sweets. The use of alcohol should be restricted. All wines, except claret, are particularly objectionable. Considerable benefit is to be derived from the use of aperient medicines, of which the salines are the best, as sodium phosfate or the sulfate, or the natural mineral waters. In some cases, I have seen marked improvement result from the use of mercury in some form, such as fractional doses of calomel, or blue mass in five and ten-grain doses. Ammonium chlorid, in ten and fifteen-grain doses, four times daily, is a useful remedy in hepatic congestion. Nitro-hydrochloric acid, in combination with nux vomica and compound tincture of gentian, often proves of value.

℞

Acid, nitro-hydrochloric . . . . . ℥ss.
Tinct. nux vomicæ . . . . . ℥ss.
Comp. tinct. gentian . . . . . āā ℥ss.

Dose, twenty-five drops in a wineglassful of water, after meals.

Turkish baths are beneficial when taken once or twice a week. Massage is of decided advantage. Lithium salts are indicated, either in the form of the effervescing citrate, or the waters of some of the many mineral springs. In some cases the wine of colchicum is an efficient remedy, in doses of five to twenty minims.

Obstructive disorders of the heart and diseases of the lungs, accompanied by distention of the capillary vessels, are rather subordinate factors in the causation of piles, but nevertheless demand consideration and treatment when associated with the malady under discussion.

Other diseases: Polypi, irritable ulcer of the rectum, more commonly called a fissure; rectal stricture; phimosis; adherent prepuce; stone in the bladder; enlarged prostate; urethral structure; abnormal positions of the uterus and growths, or other diseases of that organ, as well as of its appendages, must receive attention before we can hope to deal satisfactorily with the hemorrhoids.

Errors in diet and mode of living should likewise receive proper attention.

The local treatment of external hemorrhoids may be divided into the operative and the non-operative. The first is the preferable plan in nearly all instances. If, however, the patient refuses to submit to the slight operation necessary, recourse must be had to local applications during the acute inflammatory stage.

The operative plan, by which method only may we expect a radical cure, may be accomplished by (*a*) simple incision, by (*b*) excision, or by (*c*) excision and primary suture of the cutaneous edges of the resulting wound.

Simple incision is applicable only to the venous form, excluding the simple varicose variety, which latter, unless inflamed, hardly ever requires operative interference. It is seldom, however, that the surgeon is consulted about external piles unless they be inflamed or associated with internal hemorrhoids. The operation consists in shaving the hair; in cleansing the parts thoroughly and rendering them as aseptic as possible; then anesthetizing the tumor by means of a hypodermatic injection of a four-per-cent. solution of the hydrochlorate of cocaine (ten minims usually suffice), or by a spray of ethyl chloride, or by freezing the pile with salt and ice, and then catching the tumor firmly between the thumb and finger of the left hand and transfixing its base in the direction of the radiating folds of the anus with a curved bistory and cutting out, at the same time, by gentle pressure the clot or clots may be extruded. The subsequent treatment consists in dusting iodoform, or aristol and boric acid, equal parts, or iodol, freely over the raw surface, being careful to see that the same is firmly powdered and not lumpy; then, in applying a piece of lint, soaked in a five-per-cent. carbolized oil, into the bottom of the wound, to prevent the sac refilling with blood and to enable healing to occur from below instead of running the risk of a superficial fistula forming by the edges of the wound only uniting. The patient should be advised to keep quiet for a few days, or, at least, not to take any active exercise. It takes about ten days for the healing process to be completed, and, usually, the relief from pain is immediate and complete.

Excision is the form of treatment most generally employed for the various forms of external hemorrhoids. The technic is similar to that described for incision, with the exception that the pile is grasped by some suitable instrument, such as a hemostat, and the tumor is removed in its entirety by means of a pair of scissors, curved on the flat. In some instances, a small artery may require a ligature. If the operation be properly performed, there will be none of the dangers so frequently mentioned in text-books of the formation of a stricture. Iodoform is freely dusted over the raw surface, a firm pad of gauze and cotton and a T-bandage complete the dressing.

Excision, combined with primary suture of the resulting wound, resembles the last method, the essential difference consisting in the close apposition of the wound by carefully-buried silk-worm-gut sutures. The following points might, however, bear emphasis: The tumor is anesthetized and then grasped, on either side of its long axis, by hemostat. The necessary number of sutures are now inserted, care being taken to place them beneath the base of the pile, so that when it is excised, the stitches will not show in the wound, but be buried. This plan of dealing with external hemor-

rhoids has proven most satisfactory, not alone to me, but likewise to the patients. They get well much quicker and suffer less annoyance than when the parts are left to granulate. The sutures are taken out on the third or fourth day. In any stout person I am in the habit of taking out the sutures within forty-eight hours, for fear of the tension producing a fistulous track. I have operated on twenty-two persons by this procedure and have had primary union in all but two instances. Operating in this manner also prevents hemorrhage.

Non-operative or palliative treatment consists primarily in keeping the parts thoroughly cleansed by bathing with warm water and castile soap.

A most valuable and soothing lotion for use during the acute inflammatory stage, is one advised by the Messrs. Allingham:

℞

Sol. plumbi subacetat fort.	℥j.
Tinct. opii	℥ss.

Mix. One teaspoonful of the lotion to be mixed with a wineglassful of milk, and to be applied frequently to the anus.

A formula which I have found very useful is as follows:

℞

Fl. ex. hamamelis	℥j.
Fl. ex. hydrastis, Comp. tinct. benzoin	āā ℥ss.
Tinc. belladonnæ	℥j.
Carbolized olive oil (5 per cent. carbolic acid), q. s. ad.	℥iij.

Mix. Sig.: Apply often to the parts.

Heat or cold applications are often of service.

Dr. Ball considers the local application of a mixture of extract of belladonna and glycerine, smeared over the anus and followed by a warm stupe, the best palliative treatment for external hemorrhoids. In addition, the bowels should be fully moved, and a light, easily-digested diet, with rest in bed, should be prescribed.

Any of these remedies will usually cause the inflammation to subside within a few days; but, usually, a thickened tag of skin is left, which is liable, at any time, on the slightest provocation, to become inflamed.

POISONOUS HONEY.*

LYMAN F. KEBLER, PH. C., B.S., PHILADELPHIA.

Some of the members of the Philadelphia Beekeepers' Association were not a little agitated concerning the report of a case of poisoning by honey, occurring last fall at Princeton, N. J. Through the efforts of one of the members, the writer had placed at his disposal several sections of this honey for examination. The importance of this subject is sufficient reason for giving a somewhat detailed review of it.

It has been known many years that honey produced by bees having access to certain Ericaceæ, growing in various districts, acts as a narcotico-irritant, producing giddiness, vomiting and purging. The first record of the effect of poisonous honey occurs in Xenophon's[1] account of the "Expedition of Cyrus," popularly known as "The Retreat of the Ten Thousand." Having ascended the mountains of the Colchians, and put to rout the inhabitants, the Greeks encamped in their villages. "There[2] was nothing at which they were surprised; but the number of bee-hives was extraordinary, and all the soldiers that ate of the combs, lost their senses, vomited, and were affected with purging, and none of them were able to stand upright; such as had eaten only a little were like men greatly intoxicated, and such as had eaten much were like madmen, and some like persons at the point of death. They lay upon the ground, in consequence, in great numbers, as if there had been a defeat; and there was a general dejection. The next day no

*Read before the American Pharmaceutical Association, August, 1896.

1 400* B. C. Xenophon, Anabasis, Bk. 4, C. 8, §§ 20-21.

2 Rev. J. S. Watson's Translation of the Anabasis.

one of them was found dead; and they recovered their senses about the same hour that they had lost them on the preceding day; and on the third and fourth days they got up as if after having taken a physic."

Strabo,[3] the ancient historian, relates that three squadrons of Pompey's troops were destroyed by the Heptacometæ, a wild tribe inhabiting the mountains east of Themiscyra. The soldiers were tempted with the luscious poisonous honey, and while under its influence were slain.

Dioscorides,[4] Diodorus Siculus[5] and Aristotle all mention the maddening effect produced by honey of Heraclea Pontica gathered in certain seasons of the year.

C. Pliny[6] noticed not only poisonous honey, but maddening honey also. He writes thus: "Indeed, the food of bees is of the very greatest importance, as it is owing to this that we meet poisonous honey even. At Heracla, in Pontus, the honey is extremely pernicious in certain years, though it is the same bees that make it at other times. There is a certain plant, which from the circumstances that it proves fatal to beasts of burden, and to goats in particular, has obtained the name of ægolethron (Goats' death), and the blossoms of which, steeped in the rains of a wet spring, contract most noxious properties. The following are the signs of honey being poisonous: It never thickens, the color is redder than usual, and emits a peculiar smell, which immediately produces sneezing," and is more weighty than good honey. Persons eating it throw themselves on the ground to cool: their bodies being covered with perspiration. Beekeepers to-day say that heather honey has a higher specific gravity than any other.

"Maddening Honey." In the country of Sanni, in the same part of Pontus, a honey is met with that produces madness, and has received the appellation "mænomenon." This contamination is generally attributed to the flowers of the rhododendron, with which the woods there abound. "In Persis, too, and in Gætulia, a district of Mauritania Cæsariensis, bordering on the country of Massæsyli, there are poisonous honeycombs found; and some, too, only partly so, one of the most insidious things that could happen, were it not that the livid color of the honey gives timely notice of its noxious qualities."

J. P. Tournefor[7] ascribes the source of poisonous honey to Chamærhododendros Pontica, maxima (Azalea pontica). He says the honey stupefies the persons who eat of it.

Mr. Peysonnell[8] mentions among the annual exports from Taman, twenty-five tons of honey collected in Abaza, near the Black Sea. This product was exported as mad honey (miél-fol), and was used as an ingredient of intoxicating drinks to increase their effect.

Poisonous honey thus far considered has had its origin principally in Asia Minor. But our own United States have not escaped. Indeed, it appears that cases of poisoning multiply as bee-culture develops. No less than eight cases have been reported in New Jersey alone during the past year. B. S. Barton[9] was the first to investigate the subject in this country, and his interesting and exhaustive communication was read before the American Philosophical Society in 1794, but it was not published until 1802. Poisonous honey coming from western Pennsylvania he describes as producing dimness of sight, vertigo, succeeded by delirium, sometimes mild and pleasant, then again ferocious, producing ebriety, pain in the stomach and intestines, profuse perspiration, foaming at the mouth, vomiting and purging. The same authority also relates that a party of Pennsylvania adventurers placed some hives into New Jersey in order to produce honey. The bees throve splendidly and gathered an abundance of honey, but, unfortunately, it was of a very pernicious character. Not willing to be shorn of the fruits of their labor, these adventurers converted their deleterious honey into a drink called "metheglin," which, contrary to their expectations, was also very intoxicating.

3 100* B. C. Lib. 12, p. 826.
4 Lib. 2, p. 108.
5 40* B. C. Lib. 14.
6 77* B. C. Natural History, Bk. 21, C. 44 and 45.
*Indicates approximately.

7 1704, Hist. de l'Acad. Roy. des Science, Paris, *19*, 348; 1717, Letters from the Levant, *2*, 228.
8 1787, Treatise on the Commerce of the Black Sea.
9 1802, Trans. Am. Phil. Soc., *5*, 51; Fodere, *4*, 90; Beck's Medic. Jurisprudence, *2*, 720.

Dr. I. B. Coleman[10] reported a case of wholesale poisoning by honey occurring in New Jersey. Fourteen persons were affected, consisting of men, women and children. One died, six were severely afflicted and the rest only slightly incommoded. There was burning of the stomach and skin, shivering, general sense of coldness, retching, and ineffectual efforts to vomit.

Undoubtedly, much poisonous honey has been produced in this country, and many persons affected by it, of which we have no record. Excepting the above and some poisonous honey met with by the soldiers of the rebellion, through the Southern States, no record of any has been made in this country until we met with the celebrated case of poisoning[11] at Branchville, S. C. Here twenty persons were affected, three of whom died. The honey was found to be highly impregnated with gelsemine. Historically, this brings us to the case of poisoning at Princeton, N. J.

The sections of comb-honey in the writer's hands were carefully examined externally, and found to possess a normal physical appearance. One section would not have aroused the least suspicion in odor, color, or taste; but another section was quite dark, reddish-brown, possessed a nauseating odor and a pungent, burning taste in the back of the mouth and throat, in a measure resembling the first sensations of aconite. A number of persons were invited to take a little of the honey, its character being unknown to them; all immediately began to cough, and question the quality of the product. A third section was entirely eaten by the writer and another person in a day and a half with no ill effects. A small portion of one side of the comb possessed a most pleasant flavor, while the remainder faintly resembled section two above. The producer was not certain that all of the honey delivered to the writer was poisonous.

The contents of the non-suspicious section, about 360 gms. were digested with absolute alcohol, at the temperature of the room, during two days, with frequent agitation. The alcohol was then decanted, evaporated at the ordinary temperature, and the alcoholic residue again treated with absolute alcohol as before. The alcoholic solution was again decanted, evaporated, and a portion of the extractive administered to two cats. One cat was given a small dose, while the other received a large dose. The small dose produced partial exhaustion, relaxation of the voluntary muscles and general depression. The large dose in a short time produced restlessness, vomiting, purging, postration, and almost complete loss of the voluntary muscles, showing that the honey contained a prompt and potent poison. The animal could scarcely be induced to move, and when motion was attempted, first the fore-limbs would fail, and then the back limbs would give way. First one portion of the body would sway in one direction, then the other portion in another, reminding one of a highly intoxicated person. Had the entire dose been retained, death undoubtedly would have followed. As it was, the cat had regained her normal condition only at the end of twenty-four hours.

The physician who attended the persons afflicted with similar honey writes as follows: "Only two persons partook of the honey; all the rest of the family and the servants ate of each of the other articles served at breakfast, and were not in the least affected. Mr. and Mrs. Chambers took but a small quantity, yet each noticed a peculiar, pungent, burning taste in the comb as soon as it had passed their lips. In fifteen or twenty minutes afterwards, Mrs. C. was taken with nausea, abdominal pain and vomiting, soon followed by loss of consciousness, coldness of extremities, feebly-acting heart, and complete collapse. While ministering to her, Mr. Chambers, who had also experienced the initiatory symptoms of pain and nausea, suddenly exclaimed, 'I cannot see,' and soon sank in a state of syncope to the floor. In each case the symptoms were similar. Retching, vomiting, purging, acute gastric and abdominal pain, and continued cramps for some hours, with surface coldness and deadly pallor, and the general symptoms of collapse. No pulse could be detected at Mr. C.'s wrist for two hours, and the heart-sounds were extremely feeble and ir-

10 1852, N. J. Medical Report, Burlington, *6*, 46.
11 Gaillard's Med. Jour., *41*, 107; London Lancet, 307; Pharm. J. Trans., (3), *16*, 188.

regular; as they also were in Mrs. C. Though her pulse was not entirely lost, yet for an hour it was scarcely discernible. By the aid of restoratives, consciousness returned to Mrs. C. in about three hours, but the husband was not fully himself for nineteen hours—till four o'clock the next morning, and had no recollection of anything that had transpired in the interim, although he had conversed with the nurse and myself during the afternoon and night.

"The treatment consisted of brandy and hot drinks, sinapisms, external application of heat, hypodermic injection of morphine, for pain, and of digitaline, until reaction was restored. Then rest, quiet and a general supporting plan was adopted. Recovery took place gradually and without any eventful symptoms, though the restoration to strength was very slow."

The honey was next carefully examined for alkaloids, with negative results in every case. Not a trace of either an alkaloid or any inorganic poison could be detected.

The remainder of the alcoholic extractive was further purified and finally taken up with alcohol, agitated with light petroleum ether, then with chloroform, and the tests applied to the chloroformic residue. The above procedure is an adaptation of Dragendorff's process. Plugge[12] says the reactions of andromedotoxin with dilute and concentrated mineral acids are characteristic, yielding intensely red decomposition products. Concentrated sulphuric acid produces a dark reddish-brown, becoming redder on warming, and turning light mulberry-red on diluting with water. Alkalies destroy the color, which re-appears on acidifying. These distinctive chemical tests were not sufficiently sharp and characteristic to justify a positive conclusion either for the presence or the absence of this poison. Further work will be done in this direction.

Prof. Plugge[13] has found andromedotoxin in Andromeda japonica, Thunb., A. polifolia, L., A. Catesbæi, Walt., A. calyculata, L. Kalmia, latifolia, L., Monotropa uniflora, L. Pieris formosa, Don., P. ovalifolia Don. Rhododendron Falkoneri, Hook., R. grande, Wright, R. barbatum, Wallich, R. fulgens, Hook., R. cinnabar, Roxb., and R. punicum, Smith.

Mr. Bartram has traced many deaths to honey coming from Kalmia latifolia. Seringe relates that two Swiss priests were poisoned by eating honey gathered from Aconite dycoctonum and A. napellus, but others hold that the bee's tongue is too short to gather nectar from these plants. C. G. B. Daubney[14] states positively that Rhododendron ponticum is harmless, but has suffered much in connection with Kalmia latifolia, and Messrs. Dod and Nesbitt question the oft-repeated assertion that poisonous honey is obtained from it; but according to the statements of Messrs. Webber, Clarke and Ross, there can be little question about this plant being poisonous. All are agreed that Azalea pontica furnishes poisonous nectar; even the natives of Turkey believe that their "Delli Bal," or mad honey, has its origin in the azalea.

Robert Moffat[15] reports that a species of Euphorbia of South Africa produces poisonous honey. Mr. Hicks,[16] of Long Island, claims that Andromeda Mariana is the source of pernicious honey. He also says that some paper related the fact that a Philadelphia chemist had examined some honey from this source and found it to contain prussic acid.

After reading the above reports of poisonous honey, little doubt can exist in the mind of any one as to its origin. Yet some believe that honey is rendered noxious after being accumulated. This might be true in the case where an analysis[17] of the honey revealed the presence of arsenic. How it found its way there is a problem, for this chemical is a powerful insecticide. The honey was collected near an arsenical factory, and it is not improbable that the arsenic found its way into the honey mechanically. Being sparingly soluble, it is not impossible for it to happen in this manner during a dry atmosphere.

When the poison is an alkaloid, as gelsemine, the problem is easily solved. The bees simply collected nectar from

12 1889, Arch. d. Pharm., *227*, 164; Am. J. Pharm., *61*, 360; J. Chem. Soc., *56*, 278.

13 1891, Arch. d. Pharm., *229*, 552; Am. J. Pharm.. *63*, 603.

14 Lecture on the Trees and the Shrubs of the Ancients. Lecture 4, p. 105.

15 1846: Missionary Labors, p. 32.

16 1896: Meehan's Monthly, *6*, 123.

17 1871, M. Bouchardat, Ann. d. Therap., *34*, 207; A. Treatise on Poisons (Taylor), third ed., p. 174.

certain narcotic plants. But some one argues that it is impossible for these little creatures to collect and store a poison and not be killed themselves. There is scarcely a narcotic herb that does not give support to some form of animal life. What is nourishment and life to one is poison and death to another. Many of General Braddock's horses perished from eating leaves of the laurel during the month of June, 1755, a few days before his defeat, yet pheasants will eat and thrive on the buds and leaves of the kalmia latifolia in times of scarcity; but their flesh becomes so permeated with the poisonous principle that persons have frequently been poisoned by eating it. Such a large number of cases of poisoning from this source at one time occurred in Philadelphia that the mayor was compelled to act, by prohibiting the use of pheasants as food. Again, who can positively state that the mortality of bees is not increased in poisonous pasturage?

Is it possible to detect the unwholesome from the wholesome by odor, color and taste? The writer's experience is that one sample can be detected while another cannot be detected. C. Linnæus informs us that the honey gathered from the Ericaceæ possesses a reddish color, but does not say anything about noxious properties. Great quantities of "blooming heather" honey are consumed in Scotland, but no record exists of its being poisonous. The most experienced hunters of Colonial days, of North America, were able to distinguish the pernicious from the innocent by its crimson or reddish-brown color and thicker consistency. W. Bartram says that the poisonous honey of the Carolinas and the Floridas is so similar in color, odor and taste that it cannot be distinguished from the wholesome. The hunters tested it by taking a little and watching its effect.

Since Messrs. Plugge and de Zaayer have made their extensive examinations of the Ericaceæ, some of which abound almost everywhere in the temperate climates, and found the potent poison, Andromedotoxin, in so many of them, even the most conservative must admit that if the pasture of the bees abounds in any of these plants, poisonous honey is an inevitable consequence in certain portions of the year. N. B.—Physiologically, the chain of evidence has not been absolutely established, some one says. It is true that the andromedotoxin obtained from certain of the Ericaceæ produced some symptoms that have not been satisfactorily observed when the poison was extracted from the honey. But most of them have been noted, and it will be only a question of a few years when there cannot be a shadow of a doubt.

In placing an apiary, great care should be exercised in selecting a locality. Where many of the Ericaceæ abound, as in certain parts of New Jersey, the beekeeper is warned not to place his hives, even though it appears to be an ideal spot otherwise. The dealer is also cautioned to investigate with great care the source of this article, in order to avoid unpleasant popularity.

ADDITIONAL LITERATURE ON POISONOUS HONEY, NOT REFERRED TO IN THE BODY OF THE ARTICLE.

1791, J. Bruce. Travels to Discover the Source of the Nile. Vol. *5;* or Appendix, Quarto Ed., p. 151.
1799, W. Curtis. Botanical Mag., *13*, 433.
1819, Schrank. Med.-chir. Ztg. Salzb., *1*, 316.
1822, W. Kirby and W. Spence. Edinburg Review, *37*, 122.
1824, Mémoires du Muséum, *11*, 313.
1825, A. de Saint-Hilaire, Mémoires du Muséum, *12*, 293.
1830, J. Lindley. Natural System of Botany. First Ed., p. 183; Second Ed., p. 221; Amer. Ed., p. 180.
1834, K. E. Abbot. Phil. Mag. (3), *5*, 313.
1842, W. J. Hamilton. Researches in Asia Minor. *1*, 160, and *2*, 283.
1855, J. D. Hooker. Himalayan Journal, *1*, 190.
1861, G. Bidie. Madras Quart. Jour. Med. Sci., *3*, 399.
1873, Le Maout, Decaisne and J. D. Hooker. System of Botany, p. 517.
1872, J. Gammer, Gleanings in Bee Culture, Feb.; A B C of Bee Culture, by A. I. Root, p. 163.
1877, Pharm. J. Trans. (3), *8*, 184; Proc. Am. Pharm. Assoc., *26*, 529.
1879, A. Biliotti, Consul at Trebizonde, Report of, 2331, p. 1023.
1881, Encyclop. Brit., 9th Ed., Vol. *12*, p. 136.
1883, P. C. Plugge, Arch. d. Pharm., 221, and 813; Am. J. Pharm., *55*, 196.
1883, A. Nesbitt, Gardeners' Chronicle (2), *20*, 763; Pharm. J. Trans. (3), *14*, 504.
1883, C. W. Dod, Gardeners' Chronicle (2), *20*, 793; Pharm. J. Trans. (3), *14*, 504.
1883, H. Clarke, Gardeners' Chronicle (2), *20*, 819.
1883, H. J. Ross, Gardeners' Chronicle (2), *20*, 821.
1885, P. C. Plugge, Arch. d. Pharm., *223*, 905.

1885, H. Bley, Pharm. Ztg., *30*, Nov. 25; Pharm. J. Trans. (3), *16*, 448.
1886, H. G. de Zaayer, Ouderzoekingen over Andromedotoxine, Dissert. Groningen.
1887, P. C. Plugge and H. G. de Zaayer, Pflüger's Arch. f. Physiol., *40*, 480.
1887, J. C. Thresh, Pharm. J. Trans. (3), *18*, 397; Proc. Am. Pharm. Assoc., *36*, 411.
1887, H. J. Ross, Gardeners' Chronicle (2), Dec. 17, 748; Pharm. J. Trans. (3), *18*, 540.
1887, T. L. Brunton, Pharm. J. Trans. (3), *18*, 475.
1891, P. C. Plugge, Arch. d. Pharm., *229*, 554; Chem. Ztg., *15*, 310.
1892, A. W. Dowet, Am. J. Pharm., *64*, 458.
1895, Am. Bee, J., *35*, 825.
1896, Am. Bee, J., *36*, 146, 245, 262 and 372.

CURRENT LITERATURE CONDENSED.

The Prophylactic Treatment of Eclampsia Gravidarum.[1]

Two varieties of convulsions may occur, as a result of the pregnant or puerperal condition, viz:—First, those of a purely nervous character, occurring in women of neurotic habit and all predisposed to epileptic attacks; second, those occurring as a result of some change in the blood and tissues, due to renal disease and manifested by albumin in the urine. Cases of the first class are comparatively rare, being epileptic or hysterical in character, requiring bromides and chloral during the progress of gestation and chloroform during labor, followed by anodynes. Blood-letting is advantageous when convulsions are imminent, and morphine with atropine hypodermatically when a rapid effect is desired, but only in those cases where there is no tendency to cerebral congestion. In serious cases, abortion is not only justifiable but demanded when other prophylactic measures fail to control the symptoms. The prognosis is good, but cases are on record of a fatal termination even in the early months of gestation, therefore, prophylaxis should ever be in mind. Cases of the second class demand an early diagnosis for success from prophylaxis. Urinal examination every second week after the sixth month, and when albumin is found, daily thereafter. The condition of the urine should be the guide for treatment, rather than the symptoms of the patient. The prophylactic treatment may be divided into dietetic, medicinal and operative. In appropriate cases, milk diet only; others need diuretics, purgatives, warm baths, venesection and tonics. Where these fail or bid fair to wear the patient out, operative interference should be instituted, no matter what the period of gestation is. The prognosis in all these cases is grave, and during parturition the patient should be closely watched and various remedies administered to control, prevent or modify all causes of dystocia.

[1] H. W. Longyear, M.D., *American Journal of Obstetrics*, November, 1896.

Pneumo-Peritoneum.[2]

Tympanites may be defined as the distention of the abdomen, resulting from excessive accumulation of gas within its cavity. Pneumo-Peritoneum may be thus classified:

1. Tympanites intra-intestina.
2. Tympanites extra-intestina.
   - A. Traumatic.
     - (*a*) From without.
     - (*b*) From within.
   - B. Non-traumatic or spontaneous.
     - (*a*) Without liquid, gas odorless.
     - (*b*) Ascites and gas odorless or fetid.
     - (*c*) Pus and fetid gas.
3. Tympanites intra et extra-intestina.

First. The causes of tympanites intra-intestina are inflammation of the intestines themselves or their serous coat, obstruction of the lumen of the bowel by a growth in its interior, or compression from without, the administration of such poisons as atropine and the accompanying paralysis of the muscular wall of the intestine. Abdominal distention indicates the onset of peritonitis, supposedly occurring as a consequence of what is termed septic paresis, the bowels being deprived of their peristaltic action by

[2] James F. W. Ross, M. D., *American Journal of Obstetrics*, November, 1895.

some action brought to bear on the nerve-supply by the poisoned blood. The effect of this poison is similar to that of atropine administered in poisonous doses. This condition is not solely due to the loss of power of the muscular wall but a combination of septic intestinal paresis and septic intestinal indigestion.

Second. Tympanites extra- intestina, caused by traumatism, is divided into those where the injury is from without, air entering the abdomen through the wound, and those where the injury is from within, gas passing from intestines or lung into the peritoneal cavity. The first variety is very rare; the second variety may be caused by the perforation of round ulcers, dysenteric ulcers, typhoid ulcers, secondary ulcers due to stricture, ulcer caused by cecitis and appendicitis, from perforation of the vermiform appendix, from rupture due to a blow on the abdomen and from perforation, the result of malignant sarcomatous ulcers.

The author has met with but one case of the first and third variety of spontaneous, non-traumatic tympanites extra-intestina, and none of the second.

Third. Tympanites intra and extra-intestina is so intermingled with the other that it is of no particular interest. The fact that air is found in the intestines as well as outside of the intestines in the peritoneal cavity is not likely to affect the etiology or the treatment of the disease.

Etiology:—The author asks this question, viz:—may not the production of gas found during life occur as a consequence of the development of the bacillus aërogenes capsulatus in the presence of a necrotic condition of uterine tissue at the placental site?

Treatment:—Exploratory celiotomy in all cases.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Nux Vomica and Strychnine.

Nux vomica and strychnine (*Comby. Méd. Mod.*, March, 1896) are useful in nervous depression, atony and paralysis of the nervous system, whatever the cause. The author does not recommend its use in convulsions, in children's eclampsia and in all cases where the nervous excitability seems exaggerated.

Strychnine is indicated in heart disease, in the asystolic period, if there is any tendency to collapse, in pulmonary asthenia caused by pneumonia, broncho-pneumonia, active or hypostatic congestion of the lungs; in broncho-pulmonary catarrhs of typhoid fever, of measles, whooping-cough, when the patient's state indicates a paralysis of the lungs with threatening syncope or asphyxia; and last in case of dilatation of the bronchi, of asthma and pulmonary emphysema. In rectal prolapse, which occurs frequently in childhood, hypodermatic injections of strychnine are very useful. Nux vomica renders service in the diseases of the digestive tube, in chronic dyspepsia, characterized by atony and dilatation of the stomach, in the secondary dyspepsia of the tuberculous and in intestinal atony with constipation. Gastralgia, severe pain of the stomach and intestines are the counter-indications.

For external employment use pommades and liniments of tinctura nucis vomicæ or strychnine (1:30).

Internally, nux vomica should be administered in powder; the maximum dose is 0.01 (gr. $\frac{1}{6}$) *per die;* and ten days is the limit of using it. It should be administered in water with sugar. Strychnine may be administered in doses of 0.001 (gr. $\frac{1}{60}$). Its best salt is the sulfate. In case of accidental intoxi-

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

cation, the evacuation of the stomach must be tried and narcotic or sedatives must be administered (chloral, potass. brom., ether, chloroform).

Medical Treatment of Dysphagia in Tuberculosis of the Larynx.

Dr. Molinie (*Marseille Méd.*, November, 1895) recommends inhalations, pulverizations, insufflation and whitewashing. Inhalation is the easiest treatment. This is done either by means of a vase in which is kept the boiling solution of the drug used, or the larynx is treated directly with the powdered balsams (benzoine, eucalyptus, balm of Peru). They can be used by the patient himself and are well tolerated. Insufflations of powders are not easily supported. The powders used are iodoform, iodol, menthol and chlorhydr. of morphin, etc. Whitewashing is the most useful. By means of a pencil, different substances are directed to the diseased parts such as two per cent carbolic glycerite, iodoform with ether and creosote. Lactic acid is almost the specific remedy in tuberculosis of the larynx. When the larynx presents an ulcer, caustics must be abandoned and recourse must be had to opium and cocaine. At this period injections of menthol-oil are especially recommended. The galvanic cauterization of the infiltrated tissues aborts the disease and favors the transformation of tuberculous tissue into fibroid.

Permanganate of Potassium and Cutaneous Pruritus.

Dr. Bulkley (*Sem. Méd.*, March, 1896) uses permanganate of potassium (1 to 2:100) in case of pruritus, and states that it is very efficacious in relieving the intense itching which accompanies certain varieties of eczema or other dermatoses. These applications are made twice daily. After painting with the liquid, or rather between the applications, a pommade of zinc oxid is applied to the skin. The permanganate of potash colors the skin, but this disappears after desquamation.

Treatment of Uterine Hemorrhages.

Dr. Touvenaint (*Revue. Inter.*, April, 1896) divides the treatment of uterine hemorrhages into medical and surgical. In medical treatment, the following measures are to be taken:

1. Absolute rest in bed, with the head in a lower position than the inferior members, and complete immobility.
2. A bag with ice on the abdomen.
3. Frequent vaginal injections with sublimate solution (1:3000 or 4000) at 50° C.
4. Administration of ergot, hydrastis canadensis or hamamelis. Tinctura hydrastis canadensis can be administered in doses of forty drops a day, or the following prescription:

℞

Tin. hydr. canad	4	(℥j).
Elixir gari.	20	(℥v).
Syr. cortex aurant . . .	30	(℥j).
Aquæ	120	(℥iv).

S. A tablespoonful every two hours.

Hamamelis should be taken in doses of thirty, forty and even fifty drops daily. Ergot should be administered in injections.

5. Vaginal tamponing should be done with iodoform gauze, which should be changed every twelve hours. By changing the tampons, a warm injection has to be made each time.
6. The general health must be sustained with tonics such as extract of cinchona, alcohol and champagne.

If in some cases the medical treatment succeeds in stopping the hemorrhage, it is very often palliative and even not sufficient. In such cases the curetting gives remarkable results. The remainders of the placenta in the uterine cavity or a metritis are often the cause of the hemorrhage, and the curetting succeeds in stopping hemorrhage immediately and radically. Even in case of uterine fibroids, the curetting gives an excellent result. If the hemorrhage is caused by an epithelioma of the cervix, the curetting of the cancerous growths stops the hemorrhage. Of course, in case of large fibroids or cancer of the body of the uterus curetting is not efficacious, and in this case only hysterectomy can save the patient.

Hydrotherapy in Tuberculosis.

Dr. Casarini (*Gaz. degli Ospedali*, May 6, 1896) calls the physicians' attention to the influence of hydrotherapy on

tuberculosis, and recommends a special method of application.

A bath of 16 or 17° C. is taken early in the morning, though the temperature of the water may be raised when the patients are very impressionable. The patient stands with the head inclined and the back bent, and a sponge soaked in water of the named temperature is passed rapidly over the anterior surface of the body. This is repeated seven or eight times during one minute, after which the patient is dried by means of a rough sheet, rubbing so that the skin becomes red. The patient lays in bed for a half-hour and takes a walk for about an hour. In three cases of tuberculous infiltration of the apex without cavilary symptoms, Dr. Casarini obtained a complete recovery by this treatment. He presumes that hydrotherapy, used carefully and according to the rules mentioned, might give excellent results. It can be generally administered, but in cases where the tuberculose processus is not too much advanced; and even in the latter cases it is likely to improve the patient's state of health. In many cases the patients were so improved that they could be considered as cured.

Treatment of Sciatic with Scotch Douches.

Dr. Borichpolsky (*Neurol. Soc.*, St. Petersburg) indicates the influence of the heat on the circulation, organic exchange, motor and sensitive nerves, etc. Among thirty-two patients afflicted with sciatica of divers origin, twenty-three are completely cured, seven improved, and two not relieved by the treatment. All the patients were chronic. Taking into consideration that sciatic pain is caused by some trouble of circulation and accumulation of products of disassimilation liable to determinate trophic troubles, Dr. Borichpolsky thinks that the Scotch douches accelerate the circulation and exchanges in the diseased nerve, since in the douches there are two elements, mechanical action and action of the heat. Besides their therapeutic value, the douches might help the physician in the diagnosis, for they assist in telling from the beginning of their application whether the pain is of true sciatic origin. The author considers these douches as the best anti-neuralgic treatment and recommends them, not only in sciatica but also in general neuralgias.

Guaiac and Chronic Gout.

Dr. Garrod (*Presse Méd.*, June 27, 1896) recommends guaiac as a prophylactic remedy for the acute accidents of gout.

He says: A long experience in using the powder or tincture of guaiac allows him to formulate the following conclusions.

First. Guaiac is harmless; it can be administered for a very long time.

Second. It has a considerable sedative power in any gouty disposition (it is true, less than colchicum); the fever is not a counter-indication.

Third. It prevents the fits.

Fourth. The preventive value of guaiac is conserved even in cases where the remedy is used for a long time.

Fifth. Guaiac acts directly on the kidneys and stimulates their function.

The Influence of Salt Baths on Febrile Diseases in Children.

After an experience of twenty-five years, Dr. Angelos (*Dtsch. Med. Zeit.*, June, 1895) arrives at the following conclusions: Salt baths act as an irritant of the skin and replace the cold baths without the inconveniences of the last. A salt bath of 10 to 20 per cent. is more agreeable to the patient than an ordinary bath at the same temperature. A strong solution of salt is more or less disinfecting. According to Robin's and Keller's researches, the strong salt bath acts as a stimulant to the organic exchanges; consequently, the toxins enter partially in harmless combinations and partially are expelled faster from the body. The demonstration of this assertion lies in the quality of the urine.

The salt baths are accompanied by salty enemata, which favorably influence the acute catarrh of the rectum, and as a part of this enema remains in the rectum, it is reabsorbed and consequently makes more active the circulation of the lymph.

The author experimented with his method in diphtheria always with so remarkable results that he doesn't believe necessary to have recourse to Behring's serum therapy.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, SEPTEMBER 12, 1896.

EDITORIAL.

PATENTS AND TRADE-MARKS.

In a recent number of the *Scientific American*, editorial comment upon "patent medicines" presents an aspect of the question which is generally overlooked by the medical profession. It is the distinction between patent medicines and proprietary preparations marketed under a registered trade-mark, the latter, as a matter of fact, being the only truly "secret" remedies. The subject is considered from the standpoint of the business man and patent expert rather than from that of the physician, and the discussion, as abstracted, is of interest to medical men.

The pharmacist, in his mercantile relations, finds a very large portion of his business consists in selling ready-made mixtures, all of which by him are grouped under the term "patent medicines." These include the vast number of proprietary remedies which are of secret composition generally, and are frowned upon by the regular medical practitioners.

The term patent is grossly misapplied in the case of anything secret. A thing patented is a thing divulged. The medical profession very properly objects to secret medicines as opposed to the ethics of their calling, but a medicine patented has its composition disclosed. Any one,

for a nominal sum, can procure from Washington a specification describing its composition.

It would seem that it is not a departure from ethics for a physician to patent any medicine whose composition may involve the exercise on his part of invention; but every physician has his own favorite prescriptions, and the ground thus taken would expose the community to the abuse of innumerable patents for medicines, and prescription after prescription would become the property of some specific doctor.

It so happens that the patent law, which may be treated from some aspects of the case as an embodiment of ethics with numerous decisions of the highest courts to elucidate its doctrines, makes the patenting of a medicine exceedingly difficult. The history of these applications in the Patent Office is in most cases a rejection on formulated grounds. The application generally describes a mixture of well-known medicines. Apt descriptions and characterizations of these mixtures are to be found in official letters from the Patent Office examiner. The examiner will term the subject of the application, perhaps, "an inventory of items assembled regardless of synergistic effects or chemical union." The mixture may be stated to be "merely numerically novel," and as involving only the skill and ingenuity of a pharmacist or physician. The medicine, it will be stated, can be made by any one possessing the skill of a pharmacist or physician, and, therefore, is not the creative work of the inventor. The examiner will require the application to show, in brief, some new and distinctive product having new properties resulting from the compounding. This is rarely shown, and the application is rejected.

So much in line with each other do the numerous applications for patent medicines fall, that the Patent Office has adopted a fixed practice of rejecting all applications for medical compounds which can be regarded as in the nature of physicians' prescriptions, and as descriptive of mere assemblages of well-known ingredients which have well-known effects on the human system. The Patent Office has even gone so far as to use a practically stereotyped form of rejection of those compounds, emphasizing the fact that the proper subject matter of a patent, whatever it is for, must be able to endure the relative tests of the presence of invention as well as of novelty and utility. The majority of these cases are disposed of unfavorably for want of invention, and for being mere aggregations of known things not showing the required statutory elements.

There is, therefore, no mystery attending these cases. It will be seen that they fall exactly into line with applications for mechanical devices. In them, as in mechanical devices, one great proof of invention is the presence of a true combination of parts as distinguished from an aggregation. A distinctly new result must be shown. In a case of mechanics, it is obvious that the showing a new result is far simpler than in the case of a medicine. The results of a medicine have to be demonstrated on so complicated an organism as the human frame, and the subjective element preponderates in the trial. In other words, the result produced depends largely upon the subject upon whom it is tried. It is, therefore, very difficult to prove the presence of invention by results. Even in mechanical cases this is often not the easiest thing to do, but when the human system becomes the subject, it is a hundredfold more so.

There is, however, an indirect species of protection open to the devisor of a prescription or a formula which is unpatentable. This is afforded by the trade-mark laws. Under the provisions

of this law, one may register a trade-mark in connection with his compound and thereby obtain standing in the United States courts for protection for the use of such title, *prima facie* evidence of which will be afforded by his letters of registration. Some trade-marks are enormously valuable, the business energy of their proprietors having made a simple name worth many thousands of dollars. The right of protection in the use of a trade-mark rests in the common law, but the registration of it by a competent patent solicitor, of course, immensely increases its value.

Here another error is frequently made. Many applicants imagine that a trade-mark in some mysterious manner protects them in the use of a compound or preparation. This it does not do. It protects them in the use of the *name* or trade-mark designation. It is only indirectly that it can protect them in the *thing* bearing its trade-mark, imitation of which might be shown to indicate a desire on the part of the competitor to copy the appearance of the article and hence to trench upon the trade-mark.

The United States Patent Office is ready to grant letters patent for medicines which fulfil the statutory requirements. In foreign countries this protection is often refused, the statutes forbidding the granting of patents for such compounds.

It may be an open question in professional ethics whether a physician should patent a remedy, assuming that he has one which is patentable. Synthetic medicines, prepared by chemical processes, often coal tar products, are now invading the field of Nature's simples, and it is possible that there may yet be a number of patentable medical compounds invented to replace quinine and other vegetable alkaloids and extracts. But now, of all the so-called patent medicines, very few are really patented, but they are supposed to be; and often are, of unknown and secret composition. Protection by patenting, which involves disclosure of their composition, is the last thing their proprietors would think of. It is such *secrecy* that is opposed to every fundamental principle of medical ethics.

CORRESPONDENCE.

MEANS OF DIAGNOSIS EMPLOYED IN THE BERLIN POLIKLINIK.

EDITOR MEDICAL AND SURGICAL REPORTER:—Through the courtesy of Prof. C. A. Ewald, I recently had the privilege of visiting the Poliklinik of the Augusta Hospital.

This hospital is named for the Kaiserin Augusta who, in 1866, presented a part of Invaliden Park to the "Ladies' Aid Society," with an indorsement. In 1868, a beautiful brick building was erected. The hospital has at present a capacity of 200 beds, where surgical and medical patients are treated.

This largely-attended Poliklinik is under the supervision of Prof. Ewald's first assistant, Dr. Leopold Kuttner, and, in all probability, there is no place in the world where diseases of the stomach and intestines are so thoroughly and systematically disposed of as here, and, on this account, we can always find physicians from all parts of the globe working in its different departments. Patients with obscure symptoms are sent here from the whole empire for a diagnosis. Last year, over 27,000 patients were treated.

The methods of diagnosis in these cases, which have been under the charge of prominent physicians, are very interest-

ing. The history is carefully taken and an examination of the lungs, heart, urine, etc., is made before the abdominal organs are considered, and it is here that skill is chiefly displayed. It is surprising to see how highly sensitive the hand becomes after the practice of palpation, which is one of the main roads to the diagnosis of abdominal disease. Prof. Ewald concludes, that when a patient gives all the symptoms of carcinoma of the stomach, and he cannot palpate a tumor, the neoplasm must lie so deep in the peritoneal cavity that an operation is more than useless.

I remember a patient with a tumor which was easily palpable, two and one-half inches below and to the left of the xiphoid appendix. The question arose as to whether the tumor was in the anterior wall of the stomach or behind the stomach. This was quickly determined by inflating the stomach with a double-bulb air apparatus, which gave tympanitic resonance of the entire organ, and the growth was not perceptible by palpation.

The question often occurs how to differentiate between a tumor of the right kidney and tumor of the liver, which is quickly decided by inflating the rectum and colon. If the tumor is of the kidney, the inflated intestines lie in front of the kidney and we have tympanitic resonance; if the tumor is of the liver, it is rendered more prominent, being forced anteriorly by the inflated colon, and dullness occurs a percussion.

Gastrodiaphany is at times very valuable, as by it the stomach can be easily outlined. Much assistance is rendered in the diagnosis of dilatation, dislocation and tumors of the stomach. At times the symptoms of a given case are so obscure that the chemical, microscopic and spectroscopic examination of the gastric contents and feces is necessary to solve the problem.

It frequently occurs that the abdominal muscles are so rigid that it is impossible to make a thorough examination, and in these cases Prof. Ewald resorts to chloroform.

The differentiation between a tumor of the stomach and of the liver is at times perplexing, as they both, contrary to the books, move with the respiration, but you can fix tumors of the stomach, while the opposite is the case with growths of the liver,

CHARLES D. AARON, M.D., Detroit.

Berlin, July 25, 1896.

ABSTRACTS.

WHAT IS THE BEST METHOD OF MAKING AND OF CLOSING THE CELIOTOMY INCISION?*

In presenting this short paper to the Society this evening the writer has a two-fold object. The first is to elicit a comparison of views as to the preferable method of making as well as of closing the celiotomy incision; the second is to afford the writer an opportunity for recantation.

A little over three years ago, the writer warmly advocated the use of the buried permanent suture, silk-worm-gut being the material of preference, and thought he had found in its successful use the solution of the question of how to prevent hernia after abdominal operations. To accomplish this object, primary aseptic burial of the silk-worm-gut was, of course, an essential, suppuration in the wound, as after the employment of any method of suture, rendering the obtainment of a cicatrix firm enough to resist intra-abdominal pressure a problematic matter. Now while, with comparatively rare exceptions, able to obtain this necessary primary union, the writer in the course of time found that the suppurative possibilities did not invariably terminate with the discharge of the patient, say three to four weeks after operation, with an aseptically

*George M. Edebohls, A.M., M.D., New York, before the New York Obstetrical Society, February, 1896.

healed wound. In a number of cases suppurating sinuses, leading to or from a buried silk-worm suture, formed three months, six months, a year, and in one case even two and a half years after primary aseptic burial of the self-same suture.

Proof was thus forthcoming, in the course of time and in the shape of resurrected buried sutures, that aseptic burial and primary union did not always end the matter. The aseptically-buried silk-worm-gut suture did not always remain as an innocuous and encapsulated foreign body in the tissues, but in about five or ten per cent. of all sutures thus aseptically buried at the time of operation, the suture at a more or less remote period caused suppuration, and, either with or without extraneous help, found its way to the surface and was discharged.

Even this disagreeable side effect might possibly have been endured if only all those patients in whom the suture remained permanently and aseptically buried could be guaranteed absolute exemption from hernia; but time and experience has destroyed illusions in this respect also. I have had two cases in which hernia, in the shape of a diastasis of the recti muscles along the whole length of the wound, followed median celiotomy incisions closed by the buried suture of silk-worm-gut, embracing fascia, muscle and peritoneum. In one case three out of eight buried sutures used were removed four weeks after operation; in the other case all the sutures remained aseptically buried. The tissues forming the margins of the original wound on one side, the fascia and muscle, had gradually pulled away from the embrace of the suture, the latter cutting through on one side to the median line. A hernial aperture was thus established, extending the whole length of the cicatrix, its margins being formed by retracted muscle and fascia on either side. All the loops of the buried silk-worm-gut sutures were felt hanging intact in a row in the muscular and fascial border of one side of the hernial aperture. A subsequent radical herniotomy performed upon each case verified this palpatory diagnosis.

The buried permanent suture accomplishes no more than the buried suture which will maintain its integrity for six weeks or thereabout and then disappear by absorption, without the attached possibilities of suppuration months and years after operation.

Having decided to abandon the buried permanent suture for the closure of the celiotomy incision I, for a while, felt somewhat embarrassed for a substitute. Previous to taking up the buried permanent suture, I had tried about all the various methods and suture materials in vogue at the time, and had felt that there were shortcomings inherent to each method. In fact, this very feeling of dissatisfaction with the various methods of closing the abdominal incision had led to the adoption of the buried permanent suture.

Two requisites are absolutely essential to a satisfactory up-to-date closure of the celiotomy incision. The first of these is accurate and nice approximation and coaptation of homologous structures, so that the cut edges of peritoneum, muscle, fascia and skin on one side of the wound will each heal to the same tissues of the opposite side. The second requisite is retention of the parts in apposition until firm union has occurred—union strong enough to withstand intra-abdominal pressure without yielding. This will require, to be on the safe side, from five to six weeks; if by the end of that time, the organic union of the tissues is not sufficiently strong to be self-supporting, no suture and no abdominal supporter, no device of any kind, will prevent diastasis in the line of union and the formation of a hernial aperture.

To retain the parts in apposition for from five to six weeks, two principal methods can be employed. Through and through sutures, embracing all the tissues and tied upon the skin, to be removed in from five to six weeks; or buried animal sutures, which will disappear by absorption at the end of that time. Or a combination of these two principles may be practiced. The through and through sutures have two principal disadvantages: First, it is difficult, if not impracticable, by means of this method alone to secure accurate coaptation of homologous structures, throughout the entire depth and extent of the wound. Secondly, we generally

discharge our patients three to four weeks after a celiotomy, and it is desirable to have them leave with wounds definitely healed, and requiring no further attention in the way of dressings and removal of sutures.

The buried animal suture, so prepared as to maintain its integrity for about six weeks and then to disappear by absorption, is the *desideratum*. The writer, after much experimentation, has succeeded in learning how to chromicize catgut so that it will satisfactorily meet these requirements. Kangaroo tendon is the chief rival of catgut as a buried animal suture. Some two years ago, I employed kangaroo tendon systematically for a time, using it both for buried and for superficial suturing. As compared with catgut, I found kangaroo tendon to possess these disadvantages: 1. Its very high price. 2. The uneven thickness, not only of different strands, but of the same strand at various parts of its length. 3. Limitations of use imposed by length of strands. Kangaroo tendon cannot be obtained of sufficient length, say a metre, for a fairly long, running, buried suture. The great advantage claimed for the kangaroo tendon is its longer resistance to absorption. This is, however, only a relative advantage, which disappears entirely after one has learned how to chromicize catgut so that it will last a desired length of time. I have used only the non-chromicized kangaroo tendon, and have made comparative tests of absorption by using it alongside of non-chromicized catgut, of the same thickness, in the same wound of the same patient. The result showed an increased resistance to absorption of not more than twenty-five per cent. in favor of the kangaroo tendon; that is, if a given thickness of catgut was absorbed in say eight days, kangaroo tendon of the same thickness would disappear in ten or eleven. To make kangaroo tendon last sufficiently long for our purposes, say about six weeks, it must be chromicized, and if we must chromicize, let us chromicize the preferable suture material of the two, the catgut.

I have use in my work for the two smallest sizes only (Nos. 0 and 00) of chromicized catgut, which I invariably chromicize and sterilize personally.

Buy the raw material, catgut Nos. 0 and 00, in coils five metres long, of an importer of jewelers' supplies. Avoid the fine, white, smooth, alluring catgut sold for surgical use. The smoothness and finish are obtained at the expense of strength of material, the sandpapering process thinning and weakening the catgut in spots, and the chain is no stronger than its weakest link. Cut and remove the small pieces of catgut tied around each coil to keep it in shape.

Place the catgut in ether to extract fat. It may be left in ether any length of time—days and weeks—until convenient to proceed with the further steps of preparation.

Remove the catgut from the ether, and allow it to dry thoroughly.

To chromicize to the desired degree, place the catgut for thirty hours in the following solution: Bichromate of potash, 1.5 gramme; carbolic acid, 10 grammes; glycerin, 10 grammes; water, 480 grammes. Dissolve the bichromate of potash in the water; then add the carbolic acid and glycerin.

Before placing the coils in the solution, arrange them upon a central core or cylinder, of nearly the diameter of the interior of the coil, to prevent entangling and snarling of the catgut as it swells and becomes twisted in the solution.

After thirty hours remove the catgut with and upon the core from the bichromate of potash solution, and immediately wind it upon a frame, stretching it pretty taut. I use a wooden frame, resembling a curtain-stretching frame in miniature, one metre in length, which is the length I find it convenient to have catgut sutures. The catgut is stretched upon the frame for the twofold purpose of convenience of drying, and to prevent the curling and kinking which obtain when catgut has been soaked in water and dried without stretching.

The drying must be done at a temperature not exceeding 40° to 45° C. If higher temperatures are risked, the moist catgut may gelatinize; it then becomes so brittle as to be absolutely worthless. The drying should be thorough, and the process should extend over a space of time of several days. If

the least moisture remains in the interior of the catgut, it will surely gelatinize and render brittle and worthless the catgut when raised to high temperatures in the process of sterilization to follow. This thorough drying after chromicizing is, I repeat, absolutely essential to obtain a useful product.

In chromicizing catgut, bear in mind that nothing is easier than to overchromicize, so as to make it practically non-absorbable. The difficulty lies in chromicizing it to last just the required time, and the method just detailed is the result of much and somewhat costly experimentation. Catgut No. 0, chromicized as above, will resist absorption for about six weeks.

The chromicized catgut is now ready for the process of sterilization. I prefer sterilization by boiling in absolute alcohol under pressure, as having yielded stronger and more satisfactory material, without thereby meaning to impugn the value of dry or of other forms of moist sterilization.

After the chromicized catgut is thoroughly dry, it is cut into pieces one metre in length. These pieces are rolled on a finger into small coils which need not be tied, and which are packed nicely into one-ounce glycerin jelly jars, about twenty coils to the jar. Absolute alcohol (Squibb's 99.8 per cent.) is poured over the catgut in each jar until full, a properly-fitting rubber washer is placed inside the metal cap, and the latter is screwed down fluid-tight. The glycerin jelly jars are then placed standing in a large anatomical jar, containing from two to four ounces of absolute alcohol.

Two, or even three layers of the glycerin jelly jars, may be placed on top of each other in the anatomical jar. The cover of the latter is now also screwed down air- and fluid-tight, and the whole is ready for the sterilizer. I have always used an Arnold sterilizer, in which the large anatomical jar, filled and sealed as above, is placed, and the sterilizer started. The boiling point of alcohol is 78° C. The atmosphere of steam at 100° C. and the firm closure of the small jars, as well as of the large anatomical jar, secures the boiling of the catgut in absolute alcohol under pressure. The arrangement probably also diminishes the danger of explosion and of ignition of the alcohol vapors. The catgut is boiled in absolute alcohol under pressure for five hours, when the cover of the Arnold sterilizer is removed, and the anatomical jar with its contents allowed to cool gradually. The alcohol, of course, will keep on boiling until the temperature falls below 78° C. Readjust some of the rubber washers and fill some of the jars with absolute alcohol, to replace that lost in the process, and your catgut is ready for use.

Chromicized catgut prepared in this way does not decompose or change in absolute alcohol; the combination of the chromic acid with the catgut is an organic one, and is not affected by the alcohol. Catgut thus chromicized and sterilized remains strong, sterile and unimpaired in quality for years.

I have been thus prolix in describing the details of the processes of chromicizing and of sterilizing catgut, because I found that only by faithfully adhering to them have I been able to obtain the satisfactory suture material which I now possess. Even some of those engaged professionally and in a mercantile way in preparation and sterilization of suture material have admitted to me their inability to produce a satisfactory sterilized chromicized catgut.

Each lot of catgut thus prepared is first subjected to bacteriological test, and, if found sterile, as it invariably has been, is kept under lock and key to prevent possible tampering with. At an operation the quality of catgut estimated as probably being wanted is taken out of the jars. No catgut, however, after being once removed from the jars, is again put back.

The clinical test has proved almost equally satisfactory. For instance, for four months and a half, I have used absolutely nothing but catgut for ligatures and as buried sutures in all of my abdominal work, both hospital and private, and have not had a death from any cause, and no deep infection. Two cutaneous stitch abscesses following shortening of the round ligaments, both occurring in the same one of the two hospitals with which I am connected, are the only untoward occurrences I have had. They were both probably

ascribable to some little slip in antisepsis and not to the suture material.

I have given up trying to make the celiotomy incision exactly in the median line, but, with a number of other operators, prefer to make it through one of the recti muscles, a little to one side of the median line. The purpose is to get bare muscle surfaces on either side of the wound, which, when brought together by suture, will help by the strength of their union to make the cicatrix just that much stronger. If I have perchance hit the median line exactly, not exposing any muscle, I deliberately before closing the wound, split the sheaths of the recti on both sides by incising them along the entire length of the wound. The incisions are made along the inner edges of either muscle, and extend somewhat into the substance of the muscles themselves, so that when completed we have presenting toward each other at the median line two large muscular surfaces, each lined anteriorly and posteriorly by cut fascia. Instead of a single fascial margin on each side to approximate and depend upon for union, we have, after this flap-splitting process, two fascial margins plus a large muscular surface on either side, with greatly increased strength of the resultant cicatrix. The rule, then, in making the celiotomy incision, is either to incise through one of the recti, or, if we have failed in this, then to open the sheaths of the recti on either side so as to expose large muscular surfaces and two fascial edges on either side for union.

The edges of the wound are thus prepared for union to the greatest advantage with a view to strength of the resultant cicatrix. The running suture is to be preferred to the interrupted suture for the following reasons: By means of the running suture it is possible to bring together homologous structures more accurately, and, I believe, more quickly than by interrupted sutures. In the next place, the number of buried knots is decreased—indeed, is generally limited to one knot. This is a somewhat important matter, as no doubt the knot is the most undesirable thing about the buried suture, the bulk and local aggregation of suture material rendering knots foreign bodies, the presence of which in great number the tissues resent by an attempt at extrusion.

To tie catgut so that it will remain tied, even under tension, when buried in the tissues, a single turn is first made and drawn tight; this is prevented from slipping by the assistant grasping it with forceps until the operator completes the second turn by a friction or double knot, made by interlacing the two ends twice before drawing taut. In other words, the first half of the knot is tied as a single and the second half as a double or friction knot, exactly reversing the more common order. As catgut is somewhat elastic, it should be drawn very tight in knotting.

In uniting the celiotomy incision by the buried running suture, the following method is employed:

Beginning, let us say, on the left side of the upper end of the wound, at from one-half to one centimetre from the fascial margin, the needle, at the first thrust, is carried through fascia, muscle and peritoneum. Emerging on the opposite (right) side, peritoneum and muscle only are embraced in the suture, the fascia not being included. The suture is then continued as a running suture, embracing peritoneum and muscle only on both sides of the wound until the lower end of the wound is reached. The last loop embraces muscle and peritoneum only on the left side, while on the right it is carried through peritoneum, muscle and fascia. The deep suture is now completed, and the catgut is carried back as a running suture, whipping together the fascial edges until the upper end of the incision is reached, where it finally emerges from the fascia on the right side. The two ends of the suture are tied together over the fascia in the manner already described, constituting the only buried knot. Whipping the edges of the skin together by small over-and-over stitches, or by the subcutaneous suture of ordinary catgut, completes the closure. The fat is not sutured; it falls into juxtaposition and takes care of itself. After pressing out any air that may have been imprisoned in the fatty layer while suturing the skin, the dressings are applied.

One catgut suture, a metre in length, and consequently one knot, will suffice to close an incision five inches or less in

length. Should the incision exceed five inches in length, it is closed in two sections, calling, of course, for two buried knots.

If the recti muscles have been laid bare by slitting their sheaths along the inner border, so as to make two fascial borders on each side, one anterior and one posterior to the muscle, then the posterior layer of fascia is included with the muscle and peritoneum in the deep ties of the buried,running suture.

In case it be desirable or necessary to perform ventral fixation of the uterus, in closing the celiotomy incision, the spot is first ascertained where the fundus uteri fits comfortably against the abdominal wall. When that point of the incision is reached by the deep running suture uniting muscle and peritoneum, three loops of the suture, in addition to joining these tissues, are made to secure the uterus by being carried into and across the fundus. These three sutures, or rather three loops of the same suture, are arranged in such a way that the middle one pierces the uterus just between the points of origin of the tubes, the upper one being carried through the fundus a little behind and the lower one a little in front of this point.

This method is believed to possess these advantages:

1. Accurate coaptation of homologous structures.
2. The use of minimal quantities of buried suture.
3. Avoidance of all superfluous buried knots.
4. The suture is nowhere interposed between two raw surfaces which should unite.
5. The presence of the suture only so long as it is actually needed.
6. Removal of sutures becomes unnecessary.

The principles enunciated are applicable with equal advantage to wounds made in other parts of the abdominal wall.

The scars obtained by this method of making and of closing the celiotomy incision are characterized by palpable thickness and solidity, not only on the discharge of the patient from the hospital, but months afterward. After employing it exclusively for the past fourteen months I have yet to learn of a case of hernia following its use. I allow my patients to get up in from two to three weeks after a celiotomy, according to the nature of the particular case.

THE END OF QUACKERY IN BELLEVUE HOSPITAL.*

During the past two months there has been carried on in Bellevue Hospital by the Commissioners of Charities, bound by oath to administer the charity hospitals of the municipality to the greatest benefit of the suffering sick, such a piece of quackery against its patients, and thereby there has been offered such an insult to the medical profession and the intelligent members of the community, as, it is hoped, will never again occur.

The demise of the "drink cure" experiment is now chronicled with becoming satisfaction, and it is hoped a full account of the obsequies which the commissioners are giving the corpse will soon be given the public. The discovery and exposure of the fact that the "cure" was backed by an incorporated, capitalized company brought to light the true inwardness of the undertaking. The consternation of the commissioners occasioned by this exposé was such that it was believed they would see the error of their way and immediately discontinue the experiment. But they have seen fit to persist in their arbitrary course, and in spite of the repeated admonitions of those who could foresee the result, they have continued in their insane efforts until they have made themselves not only ridiculous, but infamous. Now they have no credit and no thanks from anyone for the cessation of the experiment. "The cure has succumbed from natural causes," so say the commissioners, and they are desirous of burying it without an autopsy. Monsters and abnormalities

*The *Medical News*, August 22, 1896.

of all kinds interest, however, and we purpose looking into the immediate cause of dissolution in this case.

For the past month the spurious visiting physician to Bellevue Hospital has been very derelict in his duties; in fact, for two successive weeks of that time he did not favor the institution with his presence. During this period, the spacious hospital wards, which had been placed at his disposal, were useless, and the suffering sick were excluded, and that too, at a time when the heat was the most trying and the demand for succor the greatest. To the shame of the commissioners, be it said, that during a crisis that called for instantaneous and unequivocal action, they remained as impassive as though they themselves had been seized upon by the *rigor mortis* that had already laid hold of their darling foster child— the subsidized drink cure. Even the warden of that institution, he who spoke from the depths of personal medical wisdom two days after the "cure" was instituted and proclaimed it "a Godsend," when informing the president of the honorable board of commissioners of Dr. Oppenheimer's dereliction frankly confessed his inability "to comprehend the situation in its present advanced form."

Even though the commissioners hesitated at this juncture to revoke the privilege granted the owner of a secret remedy, they might still have sought and found escape from their predicament by enforcing a law of their own making, that all visiting physicians shall visit the hospital at least three times a week. The ostensible reason for this delay was the desire to give the individual commissioner, who had stood sponsor for the experiment, an opportunity to prepare a report substantiating, as far as possible, his advocacy of an experiment which he and his fellow-commissioners knew in their inner consciousness was utterly futile; for failures, and numbers of them, are within their personal knowledge. The real reason, however, which they endeavor to conceal, was the hope that their critics would tire of their onslaught upon them, and when the subject had ceased to figure in the eye of the public, they could slip out of their unfortunate position without observation or comment.

Now, however, we call upon the Commissioners of Charities to put upon record their opinion of the pitiable and ignominious failure of their first effort in experimental medicine, and insist that it shall be couched in such language that, at least, he who reads between the lines, may detect their sincere sorrow and regret for their conduct. If they do not do this, we shall feel, so long as they remain in office, that being dominated as they now appear to be by their impulses and emotions, we shall not be secure from future trials of whatever silly fad they, their families, or their advisers may happen to embrace, whether it be Christian science or the Kneipp cure.

The real shortcoming in the present Board of Charities Commissioners is that they are boys in reality, although the mayor would have us believe that they are "boys" only by his facetiousness.

PERISCOPE.

The diagnosis of hypertrophic pulmonary osteo-arthropathy and acromegaly is discussed in the New York *Medical Journal* by Thayer, and illustrated by clinical histories and photographs of four cases. Three of these belong to the former disease, better called secondary hyperplastic osteitis by Arnold. In one the conditions followed a general bronchitis with effusive pleurisy; in the other two empyema was present, in one associated with bronchiectasis. The fourth case was one of acromegaly without apparent cause. The main points in the differential diagnosis are: In hypertrophic pulmonary osteo-arthropathy there are few or no changes in the face, the skin, nose, lips, orbital ridges, and lower jaw being practically unaffected; a certain amount of thickening of the alveolar border of the upper jaw has occasionally been described. The almost constant cervical kyphosis of acromegaly is also wanting; when kyphosis occurs it is usually in the lower dorsal or lumbar regions. Again, while the hand in acromegaly is enormous, with great thickening of the skin and soft parts and deep furrows, that of the other disease is much deformed as well, the terminal phalanges and wrists being much enlarged, while the carpal and metacarpal

regions are but little affected. In the latter, also, the nails are pink and curved, producing the typical Hippocratic fingers, whereas in the former the nails appear small owing to the general broadening and thickening of the fingers. In acromegaly the long bones of the forearm and leg are but little changed, or more or less symmetrically thickened; in pulmonary hypertrophic osteo-arthropathy there is a most striking increase in the size of the bones toward their epiphyses, more particularly at their distal extremities. Finally the former process is purely secondary, usually to a lung affection, while the latter is a well-marked disease by itself.

Successful results have been obtained in heart disease accompanied by disturbance in breathing, severe disturbances in the circulation, ascites, edema, albuminuria, and hypertrophied heart and liver, by Maldarescu, through the use of calomel. (*Therap. Woch.*) He gives it in six powders, with sugar, 0.10 gram every two hours during the day, for two or three days, following this with 0.10 to 0.20 gram a day for a few days after, when he then commences potassium iodid. Enormous ascites and edemas vanish with this treatment, and even patients in complete cyanosis are restored to comparative health. He ascribes the wonderful action of the calomel to its effect on the liver. It relieves the congestion, and thus restores the circulation in the important portal and liver veins, which exert a favorable influence on the entire circulation and cures some of the complications, while it relieves all. The gums are frequently affected by the calomel, and he orders a mouth wash from the first, consisting of potassium chlorate 10.0, tannin 0.25, aq. dist. 350. He limits his patients to a milk diet during the treatment, and warns them afterward to refrain from alcohol and excessive exertion, and restrict themselves to a light diet, and persist in the use of potassium iodid. He has treated 107 cases, with five deaths of those that were *in ultimis*, and nine other deaths, all of elderly persons in advanced stages. He notes that the calomel has also the advantage that after it other remedies produce their best effect. He scouts the idea that calomel can form sublimate in the alimentary canal, as a very elevated temperature is required for this.

Startling doses of Cerium Oxalate are reported by W. J. Craigen, in the *Medical World*. The case was one of slow fever, complicated with acute gastric catarrh, frequent loud eructations of gas, nausea and troublesome nervous symptoms in a thin, anemic, married woman, aged forty. He was giving her five to ten-grain powders of oxalate of cerium (a favorite remedy) to quiet the nausea. She took this with such avidity, licking up the smallest quantity which fell on her clothing, that he attempted to satisfy her appetite for it. Accordingly, he threw half an ounce of the oxalate in a dry goblet, and, placing a teaspoon in the goblet, handed it to her and bade her help herself. She ate this in six hours, and would have eaten it in two had the family permitted. No apparent effect was noticeable. She said it made her feel more comfortable. In the past two months she has eaten five ounces of oxalate of cerium, and still continues it. During the same time she has also eaten an equal quantity of subnitrate of bismuth. She says there is a particular satisfaction in passing her tongue over these dry powders. She also acknowledges taking pleasure in drinking solutions of alum.

A late fad in medicine seems to be the decrying of the use of drugs, and it is really somewhat unusual in this day to find a practitioner of large experience proclaiming boldly his belief in the efficacy of drugs, since this may lay him open to the charge of not being fully up with the developments of modern medical science. Dr. William Gowers, of London, in a recent article in the *Medical Record*, calls attention to the fact that a great many of the non-medicinal measures for combating human ills, which are now so frequently recommended, cannot really be used by the every-day practitioner. The patients whom he serves cannot afford to take rest, to travel, to spend two months at some "cure," to inhale oxygen, to undergo massage or elaborate methods of hydro-therapeutics or of mechanical therapeutics. They cannot afford even, in many cases, the dietaries which are often so highly approved; and, on account of their daily work, almost the only means of help outside of surgery is, in many instances, some medicine. The point made by Dr. Gowers is that the average practitioner does do a great deal of good with his drugs, and that they really have efficacy in lessening the severity and the mortality from disease.

Much of the crude cannabis indica that is on the market is lacking in physiological strength, and a large proportion is entirely inert, according to the *Bulletin of Pharmacy*. Of the samples which have lately come under the observation of that journal a number have proved, when subjected to physiological test, to be utterly unfit for manufacture into pharmaceutical preparations, although superficially they appeared to be of excellent quality. But the most striking instance of the kind was one which recently occurred in the laboratory of Parke, Davis & Co., involving the rejection of 1200 pounds of very nice-looking cannabis indica "spikes." A sample of the lot was submitted to their pharmacological department for a test on animals. To each of four dogs a large dose was administered, without any reaction. The dose was gradually increased to an enormous multiple of the usual quantity, and yet no reaction followed. The next day the experiments were repeated with a solid extract prepared from the same parcel; the same negative results were obtained. A jar of solid extract Indian cannabis, previous-

ly manufactured, was then taken from stock, and a small dose administered to the canines; the reaction was prompt and unmistakably characteristic of the drug. In such a case the chemist is helpless, and the only safeguard against the employment of a nice-looking yet really inert drug is a physiological test on animals. Such experiments will continue indispensable until chemical investigation has succeeded in learning something definite with respect to the active principles of drugs about which, as yet, little is known.

Lumbago, which has in so many cases proved a bugbear to the general practitioner, is discussed by Albert Robin (*Am. Jour. Med. Sciences*). He mentions the various local applications with friction, which have been used from time immemorial, revulsives, counter-irritants and wet cups. Of the applications, massage of the joints, electricity, particularly for the secondary muscular atrophy, and methylchloride for the acute stage, are especially mentioned. For the internal treatment, jaborandi is most strongly recommended. As contra-indications to its use should be cited disturbances in the cardiac rhythm, and it should be omitted if epistaxis or the quantity of urine does not reach the normal amount after diaphoresis. The method of preparation is as follows: Sixty grains of the leaves are macerated for twelve to twenty-four hours in two and one-half drams of alcohol. Upon this mixture is poured one and one-half ounces of boiling water, which is infused for twenty-four minutes and then filtered. The filtrate is taken hot, as it is prepared, in the morning, fasting. During the perspiration, the patient should avoid swallowing the saliva, which may give rise to nausea or even to vomiting, and for the thirst he should drink only a small quantity of warm liquids, diluted coffee, in order to avoid the vomiting which follows the immoderate ingestion of cold liquids or the swallowing of a certain quantity of saliva. There are instances when a single dose of the remedy will cure the disease. In case it is necessary to repeat the treatment, it is well to have a day of intermission between the doses. The patient should be kept warm, confined to his room or even in bed. In case that this remedy is contra-indicated, sodium glycero-phosphate, five to seven grains hypodermatically, can be substituted. In certain cases, when the articulations are affected, sodium salicylate may be used, but it is not so valuable as is jaborandi.

Typhoid fever, without pyrexia, is most difficult of diagnosis, and is fortunately of very rare occurrence. Svehla (*British Medical Journal*) reports a case of apyrexial typhoid fever in which the diagnosis was confirmed by the discovery of the bacillus of Eberth in the blood and urine. The patient was a boy aged six; his two brothers, aged respectively ten and four, were attacked with typhoid fever a few days after his illness began. The patient had been ill for a fortnight (vomiting and diarrhea) before admission to hospital. He was drowsy and emaciated, and the extremities were cyanotic and cold. The tongue was dry and coated. The motions were liquid, brown and offensive. The spleen was not enlarged; the urine gave the diazo-reaction, and the reaction persisted for a week longer. The patient then improved, and left the hospital, but subsequently had a relapse. The temperature never exceeded 99.2 while in hospital. Svehla states the cultivations of the bacillus of Eberth in broth give the diazo-reaction, whereas those of bacterium coli commune do not.

The American Pediatric Society has chosen the following officers for the coming year: President, Dr. Samuel S. Adams, Washington; first vice-president, Dr. W. S. Christopher, Chicago; second vice-president, Dr. Charles W. Putnam, Boston; secretary, Dr. Frederick A. Packard, Philadelphia; treasurer, Dr. Charles W. Townsend, Boston; recorder and editor, Dr. Floyd M. Crandall, New York; member of council, Dr. William Osler, Baltimore.

Tuberculous glands in the neck can be removed without visible scar, according to Dollinger, through an incision within the hair-line, extending from behind the ear downward and inward. The glands are pressed toward this opening and caught with a hook or long, narrow forceps and enucleated.

Many persons have taken occasion to cast slurs on examining boards, saying that the men on them, not being connected with medical schools, have no experience in such work and ask absurd questions which they themselves would not be able to answer. Others maintain that such tests are not fair. It must be, however, admitted that State examinations are on the whole a great benefit to the profession and to the public, says the *Maryland Medical Journal*. There is attempted an equalization of all graduates and a general standard of all physicians in one State is held. If States could agree on a national board by which any physician could practice anywhere in the United States, it would be a little more fair. In looking over the reports of any board, it is seen that graduates from some schools always stand high, with some exceptions, while other schools show a majority of rejections. The natural conclusion is that all medical schools do not maintain the same standard. If the State board could have additional powers whereby they could demand that schools keep up to a fixed standard and give all the facilities set forth in their catalogues and prospectuses, the number of failures at the State examination might not be so large.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2063. SATURDAY, SEPTEMBER 19, 1896. VOL. LXXV—No. 12

ORIGINAL ARTICLES.

SURGERY IN THE SWAMPS—VAGINAL LITHOTOMY—ABDOMINAL SECTION FOR HYDROSALPINX—LEFT INGUINAL COLOTOMY FOR STRICTURE OF RECTUM—VAGINAL HYSTERECTOMY FOR EPITHELIOMA OF CERVIX.

JAMES RIGNEY, M.D., RACCOURCI, LA.

VAGINAL LITHOTOMY.

N. S., of Innis, La., consulted me in the autumn of 1895 for irritation on urinating, which was especially severe at each menstrual period. Her urine, on examination, exhibited nothing unusual except a small quantity of pus, which led me to infer the cause of her complaint might be located in her bladder.

A Thompson's stone-searcher disclosed a small calculus lying above its neck and in such a position that it could act as a valve and intercept the flow of urine. I advised an operation, to which she consented, but on account of business affairs in the North, I was unable to attend to her until February 6, 1896.

On that date I went to her residence, administered chloroform, and, with the assistance of two of her neighbors who kindly volunteered to aid me, I opened the bladder through the vagina on the point of a sound, and introducing the blade of a pair of "knee-bent" scissors in the orifice, enlarged the opening backward about one and one-quarter inches.

There was no hemorrhage of any consequence and after sponging out the vagina I drew out the stone with a pair of dressing forceps. It was of the uric acid variety, shaped like a Lima bean and weighed sixty-five grains.

For the relief of the cystitis caused by the stone, I concluded not to close the wound, but to permit it to heal by granulation and afford drainage to the bladder. Packing the vagina lightly with iodoform gauze, I kept her in the recumbent position for a few days.

At the expiration of three months, she came to my office and expressed herself as feeling in the best of health, only lacking control of her bladder. On examination, I found the wound had entirely healed, except at the lower angle, where there was a small fistula which admitted the passage of a sound. The ensuing week, without anesthesia, I pared the edges of the fistula, and carefully approximating them, introduced

four silver sutures which closed it nicely.

A soft rubber catheter was passed into the bladder, but as she complained of its irritating her, it was removed at the end of forty-eight hours and the use of a bedpan permitted after an easy convalescence. I removed the sutures on the twelfth day and dismissed her.

ABDOMINAL SECTION FOR HYDROSALPINX.

P. S., of Letsworth, La., aged twenty-six, married eleven years, sterile, with no history of abortions or miscarriages. She had enjoyed fair health until several months past when her menses, which prior to that time had given her no trouble, became so profuse and exhausting as to prevent her from attending to her house work.

She was very anemic, as it was evident she did not have time to recover from the debilitating effect of one period before the appearance of another. On examination, I found the uterus slightly prolapsed and quite sensitive. Posteriorly and to the right of the cervix a soft mass presented itself, which to the sense of touch appeared about the size of a walnut and gave the impression of a serous cyst.

A sound passed up the womb showed a depth from the external os of three inches. On touching the fundus, I felt the handle revolve in such a position as to direct the point toward the right horn. Pressing it upward very slightly, I allowed it to penetrate the right tube about an inch. Withdrawing it immediately, about a drachm or more of clear, glairy fluid poured into the vagina.

I next introduced a curette, and drawing it gently over the surface of the uterus, removed a small quantity of tissue which caused considerable hemorrhage. A diagnosis of right hydrosalpinx with granular endometritis was found from the symptoms, and I gave her as a choice of treatment, either to aspirate the tube through the vagina and curette the womb, or curette the uterus and remove tubes and ovaries by abdominal section. She studied over the matter for some time and finally concluded to submit to a radical operation, as she was anxious to regain her health so soon as possible.

On June 26, 1896, at eight A.M., she was anesthetized with chloroform, and removing a quantity of fungosities from the womb with a sharp curette, I opened the abdomen in the median line by a three-inch incision. Introducing two fingers of my left hand into the cavity, I readily found the fundus, and moving them to the right, was able to seize the tube, which felt like a piece of gut filled with water. Raising it up it collapsed in my fingers and I feared it had burst, but remembering my experience with the sound, I passed my right fore-finger in the vagina and felt a warm fluid, evidently running from the uterus.

The right ovary was bound down by adhesions and after considerable trouble I succeeded in bringing it with the tube up in the incision, where I clamped them and applying a ligature under the clamp, cut them off and dropped the stump. The left ovary and tube were removed with no difficulty.

Closing the belly with six silk sutures, I introduced a glass drainage tube and had her removed to bed, where she gradually aroused from the effect of the anesthetic. When fully awake she complained of an intense desire to urinate which was relieved by passing a catheter and drawing off two ounces of urine.

At noon, I gave her one-quarter grain of calomel with a little crushed ice to allay thirst, and drew off one-half ounce of bloody serum from the abdomen, through the tube. At 1.30 P.M., I gave one-quarter grain of calomel and a teaspoonful of crushed ice. At three P.M., drew off two ounces of bloody serum from the abdomen, passed catheter and gave one-quarter grain of calomel with teaspoonful of crushed ice. At six P.M., I drew off six ounces of bloody serum, passed catheter and gave one-quarter grain of calomel with teaspoonful of crushed ice. At midnight, I drew off four ounces of bloody serum and passed catheter.

On the second day, at six A.M., the pulse was 90 and temperature 98½. I drew off two ounces of slightly bloody serum, withdrew drainage tube and closed the orifice, with the suture at the lower angle of the incision which had been left loose for that purpose. Passed catheter and gave a teaspoonful of epsom salts. The nurse informed me that she slept the greater part of the night, and rested easy when awake, ex-

cept for a short time in the morning hours. She complained of severe pains in her abdomen but the escape of a large quantity of gas from her bowels made her comfortable.

At eight A.M., she vomited the salts, and the nurse administered, through a long rectal tube, an enema of hot water, one pint; castor oil, one ounce; spirits of turpentine, one-half ounce, which was retained about an hour and evacuated with a bed-panful of fecal matter. At noon, she had had two fecal actions and passed urine on bedpan. I directed the nurse to give her a tablespoonful of iced milk every hour. At six P.M., her pulse was 104; temperature 99½.

The third day, at six A.M., her pulse was 90 and temperature 98½. She had spent a fair night, except for several evacuations. I ordered an increased allowance of milk, giving four ounces every third hour.

Her convalescence was uninterrupted, and July 7th she was dismissed.

Left Inguinal Colotomy for Stricture of Rectum.

H. D., aged thirty-nine, mother of four children, had enjoyed good health until an attack of dysentery, in 1892, from which, for several months, she experienced no trouble, except three or four daily evacuations, accompanied with the passage of a small quantity of mucus and blood. She eventually noticed some difficulty in moving her bowels, and after each action underwent an hour or more of suffering from pain in her back and hips, radiating down her loins.

When she consulted me, in February, 1896, she had a fecal action every third or fourth day, but in the interval several daily passages of blood and mucus, which were invariably followed by a period of suffering. On examination, I found an annular stricture within an inch of the sphincter, through which I was able to gradually push my finger, and a short distance above I encountered another, which I was unable to penetrate.

Introducing my finger in the vagina, and making deep pressure in the posterior cul-de-sac, I could feel a soft mass which I concluded was a mass of feces in the colon.

After due consideration, I advised internal proctotomy, to which she readily consented, and a few days later, under chloroform, I introduced a blunt-pointed bistoury in the rectum, using my finger as a guide, to be certain of including the upper stricture in the incision, and divided the tissues posteriorly in the median line to the coccyx. After withdrawing the knife, I packed the cavity with iodoform gauze and applied a T bandage.

After removal of the gauze, on the third day, she passed a large quantity of fecal matter, and to prevent contraction, I gave her a No. 7 rectal bougie, with instructions to pass it once daily, and, if possible, to introduce it on retiring and permit it to remain in the bowel during the night. She followed directions as closely as possible and, for a few months, improved rapidly in general health, but later I received a letter from her, stating that she could only introduce the bougie with great difficulty and that her former sufferings were returning. I wrote her, as milder measures had failed to give relief, to submit to a colotomy and received her consent.

On July 25th, I opened her abdomen with a two-and-a-half-inch incision in the left inguinal region, and after considerable trouble, succeeded in drawing up the colon. I had previously passed six silk sutures around the opening, including the peritoneum, and tying the ends, left them hanging from the sides. I next passed a silver suture, after Kelsey's method, through the abdominal wall, under the gut, through the mesentery and through the wall on the opposite side, securing the ends with buttons, and perforated, that I had the gut under control.

By this time I was almost exhausted, as anyone who has performed capital operations with the thermometer at 98° in the shade can readily realize. Cutting the tied ends of the ligatures I had previously introduced through the walls of the incision, and threading them one by one on a small curved needle and attaching the gut to the abdomen were easily performed. Placing a piece of gutta percha tissue on the wound, over that iodoform gauze, then a layer of borated cotton, I applied a binder and had her removed to bed.

At noon she had reacted nicely with-

out nausea. Passed catheter and drew off eight ounces of urine. Directed a tablespoonful of ice-water hourly to allay thirst. At six P.M., she was resting quietly. Drew off eight ounces of urine and directed a little cracked ice instead of the water to quench her thirst.

On the second day, at four A.M., her pulse was 108 and temperature 99½. She vomited a small quantity of glairy mucus, which gave her great relief. Administered one-sixth grain calomel. At six A.M., the pulse was 84; temperature 98½. The nurse had just given an enema—hot water one pint, two ounces glycerine, two ounces epsom salts, two ounces tinct. ginger. On entering the room a few minutes later, I found the patient *out on the floor*, evacuating the enema in a vessel. I had her returned to bed, with positive instructions not to allow her to ever assume an upright position until I permitted it. Then I directed one-sixth grain of calomel hourly, followed by a tablespoonful of iced milk until one grain should be taken.

At seven A.M., she vomited slightly and had a free action from her bowels. At noon her pulse was 104 and temperature 99½. She had rested quietly and passed urine twice on the bedpan. At seven P.M., the pulse was 96 and temperature 100. She was resting easy.

On the third day, at seven A.M., the pulse was 84 and temperature 98½. She had passed a comfortable night. At ten A.M., the nurse gave an enema of glycerine and epsom salts, each two ounces, hot water, one pint. At four P.M., her pulse was 96 and temperature 100. She had rested easy, taken nourishment regularly, and passed a quantity of mucus from her bowels. At six P.M., her pulse was 96 and temperature 101. She complained of great oppression in her stomach.

On the fourth day, at two A.M., the nurse called me in great alarm. The pulse was 104 and temperature 102. The patient was slightly delirious, with tympanitic abdomen. I removed the dressing and observed the vermicular action of the gut, as it was evident fecal matter was working down the intestines, through the gut, over the wire suture which supported it outside the abdominal cavity, and down into the rectum, as naturally as if in its proper position. The tympanites was confined to the extremity of the gut leading to the rectum, and as adhesions had formed between the abdomen and intestine, around the opening in the belly, I opened the gut with a pair of curved scissors, which caused the escape of a quantity of gas and some solid feces from the rectal end. Several large vessels were cut in making the incision that required the application of four hemostatic forceps to control the oozing.

So soon as possible, I administered five grains of quinine and ten grains of antifebrin, which were promptly vomited with a quantity of undigested cake and peaches, which had been surreptitiously given her the preceding day by the nurse. At 4.30 A.M., the pulse was 104 and temperature 102. I gave seven grains of antifebrin. At six A.M., the temperature fell a half degree and she was resting quietly. The nurse informed me her menses appeared last evening, but suddenly ceased. This may account for her transient delirium.

At nine A.M., the pulse was 96 and the temperature 100¾. She had retained liquid nourishment and passed a quantity of fecal matter through the opening in the gut. I gave five grains bisulphate quinine hypodermatically. At noon, the bowels were moving from the opening in the gut quite freely. Gave five grains quinine. At six P.M., the pulse was 124 and the temperature 104. Gave ten grains antifebrin, and at seven P.M. the pulse was 120 and temperature 100½.

The fifth day, at 4.30 A.M., the pulse was 96 and temperature 98½. She rested quietly during the night. Gave ten grains quinine in solution with one dram whisky. The convalescence was uninterrupted from date.

On the seventh day, I removed the wire suture and allowed her to sit up a short time.

August 10, 1896. She is now able to care for herself and is gaining in flesh and strength quite rapidly.

Vaginal Hysterectomy for Epithelioma of the Cervix.

Mrs. E. E. K., aged fifty, mother of six children, had passed the menopause four years ago, with no unusual symptoms, and enjoyed good health until last autumn, when she noticed a slight leu-

corrhea, which gradually increased until it created considerable annoyance.

A vaginal injection of sol. bichloride, 1 to 5000, to be used twice daily, had the effect of controlling the discharge. In the latter part of December, she noticed a stain of blood on her garment, but beyond mentioning the matter to her husband, gave it no further thought. About the middle of January, a profuse flow gave her considerable alarm.

When I was informed of it, I advised an examination, because I consider it very necessary at this time of life to ascertain the cause of such an effect. All the organs to the touch were perfectly healthy, and on introducing a Sims speculum, I could see nothing uncommon except a little oozing of blood from the os.

I attempted to pass a sound, but encountering some obstacle in the canal, concluded to recommend a more thorough examination under anesthesia. A few days later, with the aid of Dr. S. W. Turpin, of Letsworth, La., who administered chloroform, I passed a curette into the cervix and felt a growth blocking the entrance, that reminded me of a polypus.

On account of my inability to push the instrument into the uterine cavity, I turned it to one side and began to scrape away the body of the obstruction. The first eyeful disclosed the "crushed strawberry" substance of an epithelioma, and after removing a teaspoonful of this material, I was able to reach the fundus. Drawing the curette carefully over the inner surface of the womb, with negative results in so far as further extent of the disease was concerned, I swabbed out the vagina and was able to introduce the tip of my finger through the os into a cavity formed by digging out the diseased tissue.

We concurred in diagnosing epithelioma and advised a hysterectomy, but decided to await further developments to confirm our opinion. For the ensuing six weeks, I examined her occasionally, but observed no leucorrhea nor bloody discharge, while the secretions of the cervix were to all appearances perfectly healthy. Yet, about the expiration of that period, it became slightly colored and within a short time hemorrhages returned.

On July 23, 1896, with the assistance of Dr. E. H. Smith, who administered chloroform, I operated after the following manner: Dragging down the womb, I made a transverse incision across its neck, and introducing an instrument, devised by Thomas for operating for cystocele, I freed the cervix anteriorly, and pushing up a long-handled curved needle, armed with No. 13 silk ligature, secured the uterine arteries. Opening the abdominal cavity through the posterior cul-de-sac, I encountered more trouble than at any step of the operation, on account of the venous oozing, though it was soon controlled by attaching the peritoneum to the edge of the posterior incision with four sutures. The broad ligaments were next cut and tied, until nothing held the organ except a small strip on either side. I secured these by passing my finger over the fundus, seizing each ligature, pressing it out to secure sufficient hold to prevent slipping, tied, cut between them and removed the womb. Drawing the sutures outside the vagina, I packed it lightly with iodoform gauze and had her removed to bed.

At 3.30 P.M., she had reacted well. Drew urine and directed a tablespoonful of ice-water to be given hourly to allay thirst.

On the second day, at five A.M., the pulse was 96 and temperature 100. With the exception of having vomited twice, she had passed a fair night. One-eighth grain of calomel had been administered hourly since two A.M. At eight A.M., I drew urine and nurse gave an enema of hot water, one pint; glycerine, two ounces; spirits turpentine, one-half ounce; epsom salts, eight ounces, through a long rectal tube, which was shortly evacuated with a few lumps of fecal matter and large quantities of gas.

At eight P.M., the pulse was 96 and temperature 100½. She had had a large action from the bowels during the afternoon and slept at intervals. I directed a tablespoonful of iced milk, diluted with one-fourth lime-water, to be given hourly, and between each allowance a tablespoonful of ice-water. The convalescence was uninterrupted. On the sixth day, I removed gauze from the vagina and on the fifteenth from date of operation allowed her to sit up for a short time.

A CONTRIBUTION TO THE CLINICAL STUDY OF DIGITINE.*

HENRY BEATES, JR., M.D., PHILADELPHIA.

The derivative of digitalis, to which attention is respectfully directed, is digitine, a crystalline principle manufactured by Merck and in no sense to be confounded with digitaline, which is an amorphous powder manifestly complex and for several reasons less eligible as a remedial agent.

Digitine occurs as a pale, yellowish-white, crystalline substance; and in doses sufficiently large to secure its certain and powerful results, possesses the minimum of irritative quality and, for this reason, is especially indicated in all diseases where digitalis is required. Because its specific action is almost invariably secured without the gastric disturbances so commonly associated with the administration of the official preparations of the drug, digitine is pronounced by Merck to be "therapeutically inert!" In the dose usually recommended, this statement is true, but when exhibited in quantities of from one-tenth to one-half grain from three to six or eight times daily as conditions require, it proves itself one of the most certain and reliable remedial agents of the pharmacopœia.

Its special range of usefulness centres around cardiac diseases and affections of the vaso-motor system, and in this latter group its power to control capillary circulation and modify nutrition favorably is very conspicuous. The physiological action of digitine is practically that of digitalis, with the absence, however, of the property of irritation to the digestive tract. As for the so-called cumulative action, it is asserted that during fifteen years of extended use of digitine in large quantities, *i. e.* from one to three grains daily for long periods of time, it was never observed. In cardiac valvular lesions, where hypertrophy and the ultimate degeneration of the myocardium and consequent dilatation occur, the effects of these large doses, continued for months, are truly marvelous. Illustrative of this, is the following somewhat unusual yet typical instance.

A male, fifty-one years of age, suffered a mitral reurgitant lesion with the consequent eccentric hypertrophy. He had a typical "cor-bovinum", and the dilatation was so marked that the condition is best described by the phrase "water-logged." The serous cavities were the seat of effusion, and the distress from cardiac and pulmonary distention, as well as the cerebral passive hyperemia, such that dissolution was hourly expected. The cutaneous structures had ruptured and thus a slight degree of relief was secured. The ordinary official preparations of digitalis were being skillfully administered, but the irritative property, as well known, rendered it impossible to administer the drug in sufficient doses to secure results. Digitine, in one-half grain doses, was given every two hours until three grains were exhibited, when the quantity was carefully diminished, and in a brief time thorough convalescence was established. The sufferer was enabled to assume the duties of night watchman, in which capacity, exposed to the vicissitudes of weather, he served for more than five years. His sixth year, literally living upon digitine, found him gradually succumbing to a condition which as many years before would certainly have proved fatal had not this remedy been exhibited in these relatively enormous doses.

The several instances of this type of sufferers were similarly relieved and proportionally to the extent of lesion and life prolonged for from two to eleven years.

Let me repeat. Digitine was exhibited more or less constantly throughout these long periods of time, in the doses mentioned. There were, of course, intermissions of its use as nutritional results rendered possible. A conspicuous phenomenon in these cases, is the almost immediate disappearance of the dropsies and the question naturally arises, why?

*Read at Pennsylvania State Medical Society, May, 1896

Reflection clearly demonstrates that it cannot be due to a restoration of power to the myocardium in so short a time and consequently is not dependent upon a sudden return of normal or inherent potential energy to the heart-muscle. It can only be dependent upon a direct stimulant action upon the governing centre and intra-cardiac ganglia and also a similar influence upon the vaso-constrictors and structure of arterioles and venules. This power to stimulate innervation, if maintained by the skillful administration of digitine for a sufficiently long time, will enable the restorative power inherent in living structures to effect a return to the normal. Its special and selective action upon the ventricles of the heart is demonstrated in acute and chronic cardiac dilatation, a condition, by the way, encountered much earlier in life than is usually recognized. Here the great distress accompanying the cardiac and pulmonary turgescence is very promptly controlled, and in the acute form permanently, but in the chronic, requiring constant use. 'Tis these cases where the large doses advocated can be used for years with the best results. Those conditions attendant upon senility, such as fatty degeneration of the heart, cerebral cortical degeneration and especially those functional deficiencies that almost force a diagnosis of primary softening, are benefited to a degree truly wonderful.

One condition is especially referred to, the passive hyperemia of cerebrum in which apoplexy frequently threatens and where there have even been vertiginous paroxysms associated with confusion of intellection, disturbances of speech and local palsies of transient type; yet sufficiently pronounced to convince me that small ruptures have occurred. The careful but bold use of digitine will dissipate these symptoms with the certainty that quinia controls malaria! A large number of cases in which, years ago, these phenomena were so marked that the early advent of apoplexy was legitimately anticipated, enjoy to this day that immunity which affords the basis of the above statement. It means not only that the immediate mechanical dangers which threatened were promptly overcome, but, that, by the continued exhibition of the drug, a restoration to the normal condition of structure was secured. A study of its action in these cases forces the conclusion that not only is the vaso-motor centre directly and promptly acted upon but also the vaso-constrictors. The restoration to functional equilibrium, so frequently resulting from the careful and prolonged use of digitine, argues strongly that it powerfully influences cellular metabolism. In two instances of public men who were disabled from what may be termed premature senility, limited however to the pulmonic circulation and of course functional dilatation of the heart, if you will permit the expression, I desire to state that after several months of the uninterrupted use of half-grain doses of digitine, the nutritional results secured rendered the continuance of treatment superfluous. One of these gentlemen now discharges the duties of two professional chairs, is a voluminous author and engaged in the greatest and most active work of his life, unincumbered with the symptoms that three years ago rendered him useless. The power of digitine to influence capillary tonus is of signal efficiency in certain types of eczema so frequently met in old age and in the edema of post-hemiplegic contracture.

Sufficient has been briefly alluded to to enable the following conclusions; Digitine is a powerful and thoroughly reliable therapeutic agent; to secure results, it is necessary to exhibit it in doses of from one-tenth to one-half grain several times daily; that it possesses the minimum of that property which results in gastric irritation; that it acts upon the vaso-motor centre and vaso-constrictors very powerfully and either directly or indirectly restores nutrition by stimulating metabolic activity of cell structure; exerts a very pronounced stimulant action upon the intra, cardiac ganglia; that cumulative action does not occur and that a more reliable remedy than digitine does not exist.

"No, Willie, my dear," said the little boy's mother, "no more cakes to-night. It is too near bed-time, and you know you can't sleep on a full stomach."

"Well," said Willie, "but I can sleep on my back."

SPECIAL FORMS OF RECTAL FISTULÆ.*

WILLIAM M. BEACH, A.M., M.D.,† PITTSBURG, PA.

Only within the last decade has there been any considerable enthusiasm evinced by the medical profession in the study of rectal diseases. Now every important city has one or more reputable physicians interested in this line of work, thereby adding to the list of legitimate specialties. I only attempt to arouse your interest in a field of research long neglected and relegated to quackery.

It is generally conceded that next to hemorrhoids, rectal fistulæ most frequently claim the attention of the rectal specialist. Though the pathology of fistula in ano is familiar to all, and the subject trite, it is the purpose to direct attention to "Special Forms," and the surgical procedure toward a cure.

The blind internal fistula, with a rectal orifice and those connecting two cavities, will receive most consideration. Two reasons obtain for presenting these forms, the frequent obscurity of symptoms and lesion, and the difficulty in obliterating the abnormal canal.

Many an obscure case of pelvic disease will stand out in clear light through a skillful exploration of the rectum. The uterus and appendages or posterior urethra frequently bear the onus of some disease of the rectum trifling or otherwise and a failure to cure inevitably ensues.

The internal blind or the recto-perineal blind fistula is chiefly found in the anterior wall of rectum, though the submucous variety may occur in any portion, and the opening, usually small, is found in a pocket just above the internal sphincter. Periodically, induration may occur on the surface, which is an aid in locating the sinus that can be traced downward and forward with a bent probe. This condition is not rare but often overlooked.

Tho recto-urethral or recto-vaginal fistula is the second form. This is easy of diagnosis but difficult to cure, the former being the reverse. The subjective symptoms are certain in the latter for the most part and leave no doubt in the mind of the physician.

The science of obstetrics in its evolution plays no small part as an etiological factor. The middle of the dying century tolerated a practice of non-interference in the conduct of confinement, resulting in anterior vaginal fistula, the result of sloughing tissues from prolonged pressure of the fœtus in the parturient canal. Latterly, an opposite extreme prevails in the too frequent, not to say unskillful, application of traction instruments, which produce extensive perineal lacerations, often obliterating the recto-vaginal body, attended with paralysis of the sphincter. The traumatism may mark the beginning of a recto-vaginal fistula.

Lithotomy is not without its danger in producing rectal fistula and may be mentioned as an important factor. Thrusting the knife through the membranous urethra, the rectum may be punctured, leading to a permanent tract. This accident was probably more frequent prior to the use of anesthetic agents, conducive to calm deliberation in surgical manipulation.

Abscess is by far the most frequent source of rectal fistulæ; in fact, most authors believe it to be a *sine quæ non* in their production. Peri-rectal abscess may arise from a constitutional diathesis or a traumatism, surgical or otherwise. The point of least resistance is usually toward the rectal cavity, becoming a blind internal fistula.

The following illustrating case came under my observation:

T. S., aged thirty-five; occupation, merchant; family history good; applied to me for the relief of some obscure rectal trouble. He had considerable urethral irritation, for which he had been treated over a year, his physician supposing it to be of gonorrheal origin, doubting the emphatic denials of his

* Read before Pennsylvania State Medical Society, May, 1896.

† Surgeon to Presbyterian Hospital.

patient. Careful questioning revealed the fact that shortly before his trouble, he had fallen astride some wares in the basement of his store, the accident being followed in a few days by pain, heat and swelling in the perineum, which suddenly subsided on the appearance of a rectal and urethral discharge, the latter more profuse. At this stage he consulted another physician who faithfully treated the supposed gonorrheal discharge which soon stopped. Pain in back and hips and a rectal discharge still persisted, but he was assured that the rectum was healthy, the symptoms being a result of the past urethral catarrh.

He came to me much discouraged. By aid of a speculum and an electric lamp, a thorough search was made of the lower three inches of the rectum. I found nothing pathological. A third trial about two weeks, afterward was also likely to prove futile, but when about to withdraw the speculum, I made pressure on the perineum, which forced purulent fluid through a minute orifice on the anterior wall of the rectum. A bent probe entering this brought the exclamation, "You have touched the spot, doctor," and the instrument passed into a larger cavity as deep as the urethra. This was subsequently demonstrated by the operation, which consisted of free incision and dissection. The patient fully recovered from his nervousness and the urethral irritation disappeared.

Here, then, was a perineal abscess, the result of traumatism, opening both into the urethra and rectum, the urethral orifice closing. Microscopy revealed no gonococci.

The following case is rare, only a few of the kind having been reported. Wyeth, to whom I am indebted for the technique of the operation, reports one. This case was the result of lithotomy.

J. W., aged fifty-five; occupation, cashier. When nine years old, lithotomy was performed by a prominent Pittsburg surgeon and he was relieved successfully of a large calculus. His recovery was uneventful, but soon after, the patient noticed unnatural sensations which convinced him of a connection between his rectum and urethra. Urine passed *per rectum* in large amounts. Gas and feces *per urethra*. He consulted various physicians, who assured him that such was not probably the case nor consistent with his apparent good health, and after several years of futile medication, he suspended treatment.

In October, 1895, after a lapse of twenty years, his condition growing worse, he consulted his physician, Dr. E. L. Neff, of Allegheny, who found a communication between the urethra and rectum by injecting into the urethra several ounces of a weak solution of permanganate of potash, the fluid being found afterward in the rectum. Dr. Neff referred the case to me, when another examination was made. The finger revealed a normal rectum, except above the sphincter anteriorly, where it passed into a deep sulcus. Passing a sound through the urethra and inserting a speculum into the rectum, a probe readily demonstrated a recto-urethral fistula, the urethral opening being in the membranous portion. The fistula was fully one-half an inch in diameter throughout, since the finger readily passed through. A solution of hydrogen peroxide was then thrown into the urethra and readily appeared in the rectum. The wall of the fistula was dark and callous and the rectal orifice more or less irregular. There was no doubt in the diagnosis of a large patulous tract between these cavities.

November 2, 1895, Drs. Neff and Adair assisting, an attempt was made to close the fistula. Two crescentic flaps were made about the rectal orifice, the primary incision about a half-inch from the margin going through the muscular coats of the bowel. The flaps were dissected up to within an eighth of an inch of the margin between which and the opening, the flaps were to receive their nutrition. They were turned toward each other, the rectal mucous membrane becoming the urethral floor, the raw surface being in the bowel. A line of catgut sutures were placed about a quarter of an inch apart; a rubber tube was placed in the rectum for the escape of gas; and a silver catheter retained for ten days, through which the bladder was flooded with Thiersch's solution each time after the patient voided urine. The

wound healed kindly and promptly and a complete obliteration of the fistula was assured; but a few months afterward the patient complained of small quantities of urine in the rectum and gas in urethra which was only occasional, however.

Since the operation, no fecal matter has appeared through the urethra and the other abnormal phenomena are very much modified. An examination showed a minute orifice at the upper angle of the wound which failed to unite. The patient is anxious to have this closed, which he will allow us to do this coming autumn, when we hope to fully succeed. There was no extravasation of urine and his general health is much improved.

The importance of the rectal tube cannot be overlooked in promoting the healing process with a view of obliterating fistula between rectum and urethra or vagina. The neglect of this precaution has caused many failures in closing recto-vaginal fistulæ on account of gas infecting the wound.

THE GERM THEORY OF DISEASE.*

C. M. SEBASTIAN, M.D., Martin, Tenn.

Of tantamount importance with therapeutics is the etiology of diseases. From the dawn of medicine to the present moment have come to the practitioner these duplicate and ever-associated questions: What has caused this disease? How shall it be cured? In the earliest periods of history we have intimation that some minds had grasped the idea that low organisms were the constant cause of many diseases, and especially of those great epidemics that decimated the population of Asia and Europe. These oft-recurring scourges served to quicken the zeal of the best medical minds of the times to the duty of finding the source of the maladies that afflict mankind. Real data, upon which to rest rational hypotheses explanatory of the great phenomena that were transpiring on every hand, were exceedingly meagre and inadequate, and such facts as were possessed were crude and of uncertain significance.

It was but natural to suppose that commensurate with the effects must have been the causes, and so the literature of the times teemed with speculations and theories, both extravagant and chimerical. Thus they spoke of the *Constitutio Testileus*. Even up to a time not very remote it has been customary to speak of a disordered constitution of nature as a *Genius Epidemicus*; but as to the nature of this constitution of disease or its actual cause, there were few, if any, clear ideas. Atmospheric conditions did not explain them, and so what they could not understand was enveloped in astrological mystery. Earthquakes, volcanic eruptions and inundations by sea, these spasmodic convulsions of a sickened earth, were associated in the popular conception with the origin of diseases. They were wont to speak also of a singular corruption of the air, often expressly declared to be thoroughly immaterial and dynamic. These and many other illusory ideas were grouped under the name of cosmo-tellurian influence.

During the reign of the Cæsars, some Roman physicians expressed the belief that some of the malarial diseases then rife in the Campagna were due to the presence of living organisms in the diseased constitution. In 1677, the infusoria were discovered by Luenwenker, followed soon by the discovery of spermatozoa. It having been thus demonstrated, apparently, that there are living microscopic organisms within the living bodies of animals, the view that minute animals constituted the cause of diseases spread far and wide and soon became the fashion of the hour; but the doctrine was doomed to many mishaps, to many ebbs and flows, ere it should gain general credence. They served, how-

* Read before Tennessee State Medical Society, May, 1896.

ever, as probable bases on which to rest the theory that must yet await for its confirmation those richer demonstrations possible only to the perfected microscope. Many skin diseases are produced by fungi, and the trichina spiralis proves the truth of the doctrine, as also the development of fungi in many other affections. Scabies, as long as the itch mite was unknown, was regarded as the prototype of a purely contagious disease, and even after the discovery of the mite there was much discussion until, at length, this parasite was recognized as the sole and satisfactory cause of the disturbance. In this connection there are other facts of great importance which have been furnished by investigations into the nature of many contagious diseases of animals and plants. Certain diseases of the silkworm have been shown to be of fungous or parasitic origin. Among flies and other insects similar epidemics are known to occur. The epidemic diseases of the higher classes of cultivated plants, such as the potato disease, the grape-vine disease, the ergot of grain, are all of fungous derivation.

Important as was the apprehension of infusoria as strengthening the theory in hand, it was eclipsed by the discovery of bacteria in organic infusions. No epoch in the progress of the science equals it in far-reaching consequences. Encouraged by the hope of rich rewards, many men of great endowments and with great zeal and patience entered the field of bacteriological research. Henle, in 1850, with rare acumen and learning and with characteristic modesty, with data then at hand, elaborated the theory of a *contagium vivum*. Liebermeister, in 1865, predicted the early triumph and general acceptance of the germ theory, and each decennium since has been signalized by many discoveries, the full import of which, not then understood, has been cleared up by subsequent observations. However much we may be indebted to past workers in this investigation, it is to the labors of the bacteropathologists of the present time—our own contemporaries—that belongs the crowning glory of having brought this complex problem to virtually a positive demonstration. Succinctly stated, the conclusion of the whole matter is this, that the consensus of medical opinion, in 1896, is to the effect that micro-organisms, bacilli, micrococci, etc., have a direct relation of some kind to the causation of specific infections and contagious diseases.

Accepting these premises as tenable, we come to the brief consideration of the germ theory on the practice. (1) By sanitation or hygiene to curtail or destroy them in their breeding-places outside the human system. (2) By prophylaxis to prevent a lodgement within the body. (3) By means of therapeutic agents to modify, destroy and eliminate them when they have secured ingress to the human organism. No competent observer of *res medicorum* can have failed to note the marked influence on therapy of the bacteriological factor in pathology. We observe it in the changed nosology of standard literature. The impress of the new idea is visible in the nomenclature of the times, as well as the phráseology. Germ, germicide, parasite, parasiticide, sepsis, asepsis, antiseptics illustrate the idiom of the new *regime*. It is curious to note how many of the therapeutic agents that have come down to us with the sanction of the ages, and to which the common experience of mankind accord curative virtues, are medicinal largely because of their germicidal or antiseptic qualities. Mercury, quinine, iodine, creosote, turpentine, etc., have long held a high place in the esteem both of the profession and the laity. But if the principle be considered as established, yet it must be confessed that its application in practice has its narrow limitations, and it remains for the future to find for each specific bacteria its particular antitoxin. Whether this consummation, so devoutly to be wished for, is possible, or how far it is attainable, is still among the unsolved problems. But the promise is secure, and "tho' the mills of the gods grind slowly, they grind exceeding fine." Who, that has witnessed the triumphs of this wonder-working age, dares to doubt that there shall be found a balm for every wound and a cure for every ill? Being admonished by the length of this paper and its intended scope, I can only particularize with regard to some of the more important diseases.

Typhoid fever has its specific microbe,

and as Eberth, Klebs and Gaffky have taught us, is an organism always presenting the form of a bacillus. Meyer, Arthand and others, who have succeeded in isolating it, describe it as oval and shuttle-shaped. All observers agree as to one constant characteristic, and that is its mobility, it being observed to move rapidly across the field of the microscope. Can any careful observer fail to notice the influence of these demonstrations on the treatment of the disease? Prior to these discoveries, some bacteriocide or other nearly always played a leading rôle in the treatment, prominent among them, suffice it to mention mercury, iodine, carbolic acid, turpentine. The latter, emphasized by Wood nearly half a century ago, had held its place in the therapeutics of this disease through every mutation to the present moment. The late W. K. Bolings said that he began the treatment of the disease with this agent, continued and gave nothing else. The present treatment, whatever it excludes, generally includes some one or more of the above-mentioned antiseptics or eucalyptol, thymol, menthol, guaiacol, naphthol, and other newer potencies of this class.

The morphologic nature of the bacillus of diphtheria has been definitely determined by microscopists of late. Bacteriocides hold the leading place in the treatment, notably, bichloride of mercury and chlorate of potassium, and now the journals are replete with accounts of experiments tending to establish the efficacy of the antitoxin of Behring. Everywhere the profession is being aroused to the importance of differentiating between the pseudo-diphtheritic bacillus and the Klebs-Lœffler or diphtheritic bacillus, that effectual treatment may follow. Jenner, by sending the microbe of small-pox through the system of the cow, got a modified virus by which that dread disease has been nearly banished from the world, and following along in the same line, M. Pasteur, of France, has been conducting a series of brilliant experiments, tending, by many strong and convincing proofs, to establish the prophylactic and curative effect on the attenuated medulla on the virus of hydrophobia. But time would fail me to elaborate on the success that has rewarded the researches of a host of indefatigable investigators who are now engaged in the identification and isolation of the specific bacteria of the more important diseases, but *en passu* I will mention that Koch, who has established his claim that the comma-bacillus is the bacteriological cause of cholera, has also demonstrated the bacillus of tuberculosis, having in addition offered for its cure an antitoxin that is still *sub judice*. Sensible of the incompleteness of this dissertation, I must close with this optimistic prophecy, that, looking out from the heights now attained, medicine will soon occupy a position of an armed neutrality, and be able to dictate and enforce terms to every foe that afflicts the race.

A new conservative operation for the relief of chronic disease of the appendages has been twice practiced by Saenger. (*Centralblatt fur Gynak.*) He terms it "pelvifixura ovariorum." In many cases of long-standing pelvic inflammation the uterus is found displaced more or less backwards, and the ovaries prolapsed and adherent to Douglas's pouch. He objects to fixation of the uterus against the abdominal wound and to removal of ovaries that can be saved. He, therefore, replaces the uterus after setting free all adhesions which hold it back, and passes a silkworm-gut suture through the uterine tissue close to the cornu on each side. The two sutures are passed through the parietal peritoneum below the level of the abdominal wound and as near as possible to the bladder. Then the tube and ovary are drawn up on one side. Two or more fine silk sutures are passed, either through the mesosalpinx close under the ampulla of the tube, or through the infundibulo-pelvic ligament immediately behind the ovarian fimbria. A piece of the peritoneum on the wall of the bony pelvis at the level and immediately in front of the outer origin of the infundibulo-pelvic ligament is raised into a fold with forceps. The silks are passed through this fold. Then they are tied. The opposite appendages are treated in the same manner. Thus both are brought back to their right level, the pain and congestion of the ovaries due to prolapse being cured.

CURRENT LITERATURE CONDENSED.

The Adulteration of Foods.[1]

The report of the Connecticut Agricultural Experiment Station on the tests it has made in regard to the adulteration of food-products is exceedingly interesting. Altogether 848 articles were examined, consisting of syrups, sugar, honey, pepper, lard, mustard, cheese, coffee, and milk. Of the entire number examined, 67.2 per cent. were pure, and 29.9 per cent. were adulterated. It was determined, among other things, that honey was largely adulterated by the addition of common sugar—even the honey in comb not being genuine. Cottonseed oil and stearin were commonly added to lard. In pepper were found maize, rice, oats, shells of cocoanut, sawdust, terra alba. Indeed pepper was the most extensively adulterated of all the articles examined. Mustard frequently contained plaster and coloring matter, such as tumeric—the spicy taste and yellow color of this adulterant making it eminently suitable. Coffee contained chiccory, of course, and also peas, dandelion, beets, carrots, acorns, etc. Ground coffee was almost always adulterated, but even the bean was exceptionally found to be purely artificial.

For the credit of Connecticut we would state that the articles examined were brought from all over the United States, and not manufactured exclusively in the land of "wooden nutmegs."

This report is the first made under the recent appropriation of $2,500 made by the Legislature. It is to be hoped that the valuable tests will be continued, for such reports are not only of scientific value, but are distinct educators of the public, especially when, as in Connecticut, a fine of $500 or imprisonment for one year is imposed on the man who adulterates or knowingly sells impure food-products.

Asphalt and Public Health.[2]

It has recently been claimed in the lay journals that the lowered mortality of the past months in New York city has been due to the increased area of asphalt pavements upon the East Side. These it is thought prevent the saturation and pollution of the earth beneath by the fluid portions of decomposing substances in the streets. Ground air has long been held accountable for much that was otherwise unexplainable in the mysterious development of disease, but despite the clever arguments devised to support their contentions and perhaps a strong probability in their favor, its advocates must be contented with the doubtful Scotch verdict of "not proven."

The gradual but none the less complete and notable change which has come over the districts inhabited by both rich and poor since the inauguration of our present efficient system of street-cleaning should indicate pretty clearly where a part at least of the credit for a lowered death-rate is due. One has but to go still further back in the history of this city, as did Dr. Moreau Morris in his paper read last year before the Pediatric Section of the Academy of Medicine, and recall the atrocious sanitary system of the city twenty-five years ago which induced a death-rate of one in thirty-five of the population, to realize how inevitably improvement in the hygiene of a city affects the health and lessens the mortality of its inhabitants.

There are other ways, however, in which asphalt may contribute to public health beside hermetically sealing the underlying ground. Its smooth surface adapts it admirably to the operations of the corps of cleaners, whose coarse brooms leave behind much of the finer dust and débris in the interstices of the time-honored paving-block.

The acme of street cleanliness is attained upon the boulevards of Paris, where each morning the workmen drag about a jointed hose, mounted upon countless pairs of little wheels, the whole looking like some hundred-footed batrachian pursuing its sinuous course upon its belly and spouting forth the waters of the Seine. Behind this come other men who with rubber scrapers put the finishing touches on the surface. But if the Croton water-shed gives up its waters too begrudgingly to allow of their

1 *American Medico-Surgical Bulletin.*
2 *American Medico-Surgical Bulletin.*

use in such a lavish manner upon our streets, the heavens at intervals supply the deficiency, and at such times we can see the superiority of the smooth asphalt over the rough stone blocks if we will but compare two differently-paved streets. After a sharp shower every bit of dust and dirt has been washed from the asphalt, while much remains between the Belgian blocks and in the depressions to which they are chronically liable. A street which can thus be flushed periodically by the elements has all the sanitary advantages of the smooth mosaic or concrete floors of the model modern operating theaters. Deprived of the shelter of cracks and crevices in which they delight to hide and multiply, the germs of putrefaction and disease have short shrift and are caught up and hurried along to that underground waterway which leads resistlessly to the sea.

The Cholera.[3]

The sanitary service of Egypt are at the present time anxiously struggling to arrest the extension of the cholera, which has lately showed renewed virulence in Cairo, Alexandria, and other parts of the country, but their efforts are seriously hampered by the fanaticism which prevails on the subject, especially among the lower and grossly ignorant classes of the population. The riot which occurred June 1st, at the El Azhar University and Mosque, at Cairo, shows that it is not only amongst the lowest classes that fanaticism and superstition prevail. A case of cholera having occurred in the university, a doctor of the sanitary department applied in ordinary course for admission, but was refused; and on his calling in the aid of the police and military the Syrian students offered serious resistance, with the result that two were killed, several wounded, and upwards of one hundred arrested. Moreover, the head of the university seems to have refused to use his influence to quell the disturbance.

The poor are taught that the physicians will poison them and mutilate them after death, and consequently cases of cholera, when they occur, are concealed until the infection has spread and the water supplies have possibly been polluted. With the view of counteracting the evil influences of these false rumors and popular ignorance, Dr. Bitter, the Sanitary Inspector of Alexandria, on the recrudescence of cholera in that city, published in the *Egyptian Gazette* of April 22d, a very clear report on the steps actually taken by the sanitary staff in dealing with cases of cholera, and pleaded, apparently in vain, for popular confidence and co-operation. It is reported that since September last, 3,030 cases of cholera, of which 2,523 were fatal, have occurred throughout Egypt, but these returns are probably by no means complete. At the present time from thirty to forty deaths a day are occurring in Cairo alone.

Conservative Surgery in the Treatment of Hemorrhoids.[4]

Dr. J. B. Bacon urges conservative surgery in treating hemorrhoids. He claims that a varicosed condition of the hemorrhoidal veins does not call for any different surgical process than for the care of varicose veins in other parts of the body. Any operative procedure that destroys or interrupts the anastomosis of the venus plexus, either of the external, internal or intermediate veins, will, as a rule, relieve permanently the hemorrhoids. Such an operation, as a thorough divulsion of the sphincters or massage of the varicosities, will cure many cases of hemorrhoids that are of the internal variety.

There are certain principles that have governed surgery in the past and will continue in the future. One of these is to ligate a bleeding vessel. Why should an exception be made in operating for hemorrhoids? The anatomy of the hemorrhoidal veins suggests the operative procedure for relieving a varicosed condition of these vessels. A segment of the varicosed system of veins must be removed. One segment on each side of the anus is sufficient; therefore, if the larger tumors are removed, one at least on each side, the varicosed system of veins is broken, and the remaining varicosities are absorbed and disappear.

Remove these hemorrhoids that are causing the discomfort, together with

[3] *British Medical Journal.*

[4] *The North American Practitioner*, June.

the external tumors, or skin tags, and the patient is cured, and only a small surface of either skin or mucous membrane has been disturbed. The ligature-clamp and cautery-crushing method, according to the choice of the surgeon, will answer the purpose.

After the patient is convalescent, teach him the cause of his previous trouble, and how to avoid congestion of his portal circulation or overstraining of his general vascular system. This method of operating gives the happiest results, and, if adopted generally, would tend to restore the confidence of a much-abused class of patients, and give the general public greater respect for the science of surgery.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Diuretics in Heart-diseases with Trouble of Compensation.

Dr. Langger (*Corresp.-Blatt. f. Schweizer Arzte*, 20, 1895) describes his experience in eighty cases of heart-disease, referring the trouble of compensation either to valvular disease or myocarditis. The first three days in such cases he prescribes a complete rest in bed and some indifferent remedies (acid phosph., Dec. Chinæ, etc.) A special attention must be paid to the quantity of the urine; in case the quantity doesn't increase, diuretics must be administered. Digitalis, diuretin, calomel, strophantin, digitalin, are the usual diuretics. Each of them acts in a good way, but the effects are greater when digitalis is associated with them. Digitalis, diuretin and calomel are sufficient to obtain a good result, but if their effect is doubtful, the author has recourse to digitalin. Liq. Kalii acet. and scilla help the diuretics to produce the desired effect.

Treatment of Grave Anemia.

Dr. Von Kehrer (*Der Practische Arzt.*, January, 1896) thinks that there are three ways of treating grave anemia: mechanical, stimulant and blood improving. The mechanical treatment consists first of giving the head a lower position than the rest of the body, by which a hyperemia of the brain takes the place of the former anemia; and, secondly, auto-transfusion, which consists of enveloping the arms and legs with flannels. The stimulant remedies are coffee, alcohol, ether and camphor. In order to improve the blood, the author administers water, hypodermatic injections and transfusion of 0.6 per 100 of salt. After this it is useful to drink fresh water and to cover with blankets, and warm the feet. The subcutaneous injections of artificial serum have to be made two to three times daily of one-half to one litre.

Corrosive Sublimate in Whooping-cough.

According to the *Giornale Medico del Esercito*, corrosive sublimate renders good services in whooping-cough. The article recommends daubing the throat, the base of the tongue and the amygdales with a solution of sublimate of 1 per 1000 every morning. No intoxication has been observed, and even severe cases were cured in eight to fourteen days.

To Remove the Odor of Iodoform.

The *Journal de Médecine* recommends oil of turpentine as a means to diminish and to remove the smell of iodoform. The hands and instruments which are in contact with iodoform must be washed in water mixed with the oil, and immediately after with soap, and the odor of iodoform will disappear entirely.

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

Dyspepsia with Dilatation of the Stomach Among Arthritic People.

Dr. Terreboullet (*Presse Méd.*, November 7, 1896) proposes the following treatment for dyspepsia with dilatation of the stomach where there is a tendency to arthritis:—

1. Special care must be taken of the skin. Washing with alcohol and dry friction should be made twice a day on the whole body. Friction should be used till the skin becomes red. Every three or four days a large bath (38° C.) should be administered for three-quarters of an hour; add 250 grm. of sodium and 4 kilogram of salt to the water.

2. The patient shall have three meals a day and nothing between meals. The breakfast (at 7 A.M.) should consist of a cup of tea or black coffee with a piece of dry bread; neither milk nor butter. At noon, a soft-boiled egg, a small piece of fish (about 100 grm.) or cold meat, vegetables (about 100 grm.) well cooked, cheese (15 to 20 grm.) and cooked fruits (25 grm.), 25 grm. of dry bread; drink only one cup of tea or two small glasses of wine mixed with water. At dinner (at 7 P.M.) a small plate of soup, 60 grm. of fish, 100 grm. of white meat, well cooked, 25 grm. of fruits, only 25 grm. of bread and about 150 grm. of wine mixed with water. The tea or coffee have to be taken without any sugar. Any sweet or fat things must be denied.

3. Before each meal take one of the following pills:

℞

Strychninæ Sulf.	0 | 001	(gr. $\frac{1}{60}$)
Quassiæ	0 | 01	(gr. $\frac{1}{5}$)
Extr. gentianæ	q. s.	

For one pill. Fiat pills, No. xxx.

Between the two principal meals take one of the following pills:

℞

Sodii iodidi		
Lithii benzoat.	āā 0 | 10	(gr. jj)
Extr. alcoh. fucus vesiculos.	0 | 06	(gr. j)
Pv. sapo amygd.	q. s. ad 1 pill	

Fiat pills, No. xxx.

4. This treatment must be taken during fifteen days, after which interrupt it for eight days.

A Remedy for the Cough in Measles.

The *Gazette hêbom. de Méd. et de Chir.* recommends the following prescription for stopping the cough of measles:

℞

Extr. hyoscyami	gr. 2.25
Aq. dest.	℥ 22
Syrup	gr. Cl. M.

S.: A teaspoonful every two hours.

Treatment of Scrofula.

Dr. Lyonnais (*Méd. Mod.*, April 8, 1896) is of the opinion that scrofula is a morbid disposition of the economy liable to provoke a certain number of affections, divided by Bazin in four groups: (1) Superficial cutaneous scrofulides; (2) Scrofulides of the mucous membranes; (3) Profound cutaneous scrofulides; (4) Swollen ganglions.

The general treatment of scrofula is most important: hygiene and certain medicines are the true specific remedies. The hygienic treatment can and must be applied from the day of birth, to children whose parents are in doubtful condition of health: nursing with the breast, regularity, pure air, well-aired rooms, meat alimentation at two years of age, etc. Later rise hydrotherapy, salt baths, stimulant frictions, residence on the mountains or seashore. As to the medicines whose efficacy is recognized, the best are cod liver oil, iodine, and iron. Cod liver oil can be prescribed only in winter, and not in every case; it will find its indication especially in the grave accidents of the disease, which are placed now among the symptoms of tuberculosis.

The horse-radish syrup of iodine, which is considered as a succedaneum to cod-liver oil, acts through the iodine contained in this vegetable. Iodine, associated with iron, is the best combination for the internal treatment. Proto-iodide ferri with syrup aurantii cort. and quassia amara is an excellent preparation.

To adults the author recommends the prescribing of iodide potassii, sodii or strontii, which ought to be prescribed in combination with syr. cort. aurantii.

Treatment of Conjunctivitis.

Dr. Dubat (*Presse Med.*, July, 1896) calls attention to the treatment of conjunctivitis with petroleum. Whitewashing with this oil is particularly efficacious in conjunctivitis catarrhalis and pseudo-membranosa, and gives remarkable results in acute, granular and

purulent conjunctivitis. In the ordinary catarrhal conjunctivitis it is sufficient to whitewash the mucous membrane.

Hypertrophy of the Heart During Growth.

Dr. Labernesse (*Presse Méd.*, July, 1896) recommends physical and moral rest, and eleven grain doses of the leaves of digitalis, reduced in powder and macerated in cold water, but not for a long time. He also gives potassium iodidi in a dose of .50 grm. (gr. x) or 1 grm. (gr. xvi) daily during several months, and aqueous extract of convallaria majalis in doses of 1 gr. to 1.50 gr. (gr. xvi to ʒss) or convallarin .05–.10 (gr. j–gr. jj). Caffeine, protoxalate ferri are recommended in the following formula:

℞

Extr. quinquina, " gentianæ, " rhei	āā 5	(ʒjss.)
Tr. ferro-potass.		
Extr. nucis vomicæ	āā 0 | 50	(gr. x)
Ess. menthæ		gtt. v.

Medical Treatment of Uterine Prolapse, Rectocele and Cystocele.

Dr. Lutaud (*Jour. de Méd.*, 14, 1896) commends the following treatment, with a view of modifying the vaginal mucous membrane by applying special tampons and sustaining the uterus and avoid prolapse by means of pessaries:

I. Twice a day, after having made an injection with boric solution ($\frac{4}{100}$), touch the vaginal mucous membrane with:

℞

Permang. potass.	0 | 25	(gr. v)
Aquæ	30	(ʒj)

Immediately after apply a dry tampon. This can be repeated every two days. In using the permang. solution take care to avoid the meatus of the urethra. Another method is to use a tampon soaked in the following solution, inserting it into the vagina every day:

℞

Acid salicyl.	0 | 25	(gr. v)
Naphthol	0 | 50	(gr. x)
Chloral	3	(ʒj)
Alcohol	20	(ʒvi)
Aquæ	200	(ʒvi)

In case the salicylic acid irritates, which happens frequently, the author uses the following formula for daily vaginal tampons:

℞

Tr. iodini	10	(ʒijss)
Tannini	15	(ʒss)
Glycerini	60	(ʒij)

Astringent powders are very useful. The author recommends the following:

℞

Tannini		
Iodoform	āā 3	(ʒj)
Lycopodium	30	(ʒj)

In case the odor of iodoform is disagreeable to the patient, he can use:

℞

Tannini		
Zinci. oxidi		
Salol	āā 3	(ʒj)
Lycopodium	30	(ʒj)

These powders can be insufflated or introduced in the vagina with tampons.

II. As to the pessaries, the author thinks that most of the uterine prolapsus can be sustained by them. They are useful after the previous treatment. Dr. Lutaud prefers Dumontpallier's and Hodge's pessaries. The first are very easy to be handled, but the last have the advantage of being better adapted and of not preventing coitus.

Fat embolism caused by a forcible straightening of the knee proved fatal in a case reported by Ahrens in the *Boston Medical and Surgical Journal.* The patient was fifty-three years of age, and the condition of anchylosis had existed for a long time. Gradual straightening by extension was first employed, and later forcible straightening for the remainder of the deformity. Two days after the operation the patient became drowsy, and died the next day. The autopsy revealed a fat embolism of the lungs. The ends of the bones were in an advanced stage of osteoporosis, and showed two recent crushes. He cites two other analogous cases reported by Halle and Marburg, and concludes that the field is limited for this work, which is contra-indicated when one may expect fatty degeneration of bones and muscles.

Clerk—"That young Binks is outside, sir, who made application. Shall I put him to work?"

Employer—"Yes, let him begin at $9 a week."

Clerk—"But he's a college graduate."

Employer—"Well, in that case, start him in at $3."

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, SEPTEMBER 19, 1896.

EDITORIAL.

THE DOCTOR AND THE AGENTS.

The physician's house offers the happy medium between the privacy of the ordinary residence and the publicity and bustle of the business office. Persons in search of a water-closet, which we are not yet sufficiently civilized to furnish at public expense, tramps who have three cents and who want two more that they may buy a cup of coffee, professional beggars with baskets, sneak-thieves, more or less disabled offscourings of society in search of sympathy and advice, peddlers and agents of all kinds steer for the doctor's office, confident that they can at least pass the threshold unchallenged.

We would advise every physician to learn to deal with these unwelcome visitors at the least possible expense of time, and to insist that due respect be shown his place of work, if not of residence also. The man who enters the waiting-room with his hat on and puffing a cigar, or one who spits on the floor, should be shown to the door without parley. The occasional loss of a prospective patient is cheaper than to let an insult pass unnoticed.

Do not let your sympathies run away with your discretion. Remember that, in this country, only a series of misfortunes can make an applicant for

charity out of anything but intemperate, vicious or criminally lazy humanity. Mendicancy, in cities, is totally without excuse, since the person who applies in good faith for relief, can be dealt with much more satisfactorily by an organized society or by the poor master. And, finally, as a matter of actual observation, it is easily demonstrated that not one in ten of the applicants for charity of any kind—exclusive of little children—is essentially worthy. Peddlers can usually be dealt with by a servant or some member of the doctor's family and it is well to remember that many of them are really deserving of practical sympathy.

The worst pest is the elderly insurance agent, haughty in bearing and elegantly clothed. One is almost in danger of falling in with his delicate implication that his visit is a favor to the doctor. Other grades of insurance agents exist, but all tell essentially the same story, none present a policy that is lacking in loop-holes, and all alike are serving themselves first, their company second and the applicant last. An excellent method of disposing of this class of visitors is to state that their propositions will be received when accompanied by an appointment as examiner—from headquarters—as the soliciting agent is absolutely irresponsible.

We hope that our readers will not do us the injustice of understanding us to condemn insurance in wholesale terms. Few persons are so situated that they can afford to be without insurance, in spite of the adherence to rates based on mortality tables long since proven to be too high, but we do protest against the idea that any stranger can assume that we do not carry enough of this *post-mortem* protection and waste our time with his own in the endeavor to increase the desirability of our departure from earthly affairs. Neither must it be assumed that our method is to be used by one really desirous of an examiner's position. Such appointments can be secured only by the most diligent canvassing and the employment of all possible influences.

The ordinary book-agent leads a hard life but it is not safe to treat him with too much sympathy. Why an entire stranger should venture to dictate to the literary tastes of a member of a presumably learned profession or take it for granted that standard classics of the English language are lacking from our library, is a question which awaits a satisfactory answer.

In marked contrast to the unwelcome visitors alluded to and mentioned in this category only because we have but the one word *agent* to describe all kinds of dealers who try to sell their wares at the residence of the purchaser, are the representatives of houses carrying medical supplies, books, instruments and drugs. Such persons, we believe, should be treated with every courtesy by the physician. Their errand is one that not only seeks but confers an advantage. They are, almost without exception, gentlemen; too often they are less fortunate members of our own profession; they are considerate of the physician's time and of the prior claims of patients; they are seldom importunate but recognize the right of the prospective purchaser to decide what he shall buy or use and what he will not. Some companies, it is true, are seeking to introduce secret nostrums to professional favor or to vaunt the merits of mediocre or positively fraudulent foods for infants and invalids. It is best to avoid an argument with agents of this class of wares but to dismiss them as speedily as possible.

The men who represent good medical literature, standard medicinal products and well-made instruments, afford the

easiest and most convenient way by which to keep posted on certain lines of medical progress and the physician should bear in mind that it is as much his business to familiarize himself with the merits of new books, new drugs and new instruments, as it is the business of the agent to create a market for them.

It is also worth remembering that many houses are so generous with samples, really useful literature and little conveniences for the doctor's desk that they repay the very moderate amount of time which they claim.

CORRESPONDENCE.

HOW TO TREAT ACNE SUCCESSFULLY.

Few diseases cause the worriment to physicians that acne does, since it is usually uncertain in its prognosis and difficult of treatment, altogether out of proportion with the consequence of the trouble. Few physicians but have had a case, since it is so common an affection among the young of both sexes, and is apt to trouble the person having it to the point of seeking medical advice. It is a great humiliation to the patient, since the general idea of the laity is that the eruption serves as an index to the moral obliquity of the afflicted victim.

Persons of auburn hair and fair complexions are more easily relieved than those of dark hair and skin, the latter requiring nearly double the time to cure that the former do. Still, by closely following the line of treatment I have mapped out, a successful result is sure even in the most chronic cases. The period of treatment varies from four months in a person of fair complexion, to six or eight in the most obstinate cases.

The patient must be informed of the length of time they must take the medicine to effect a complete cure. A strict promise must be exacted to use no pork grease. No pie, biscuit or very rich food must be allowed. Meat can be eaten once a day, and a limited amount of fluids taken at mealtime. All this must be promised and strictly adhered to. The patient can be told that the medicine will be quite palatable and not at all injurious to the health.

To relieve the eruption, give:

℞

Donovan's solution	℥ij.
Ess. gaultheria	♏iij.
Aqua destil. q. s. ad.	℥xvi.

M. Sig.: Teaspoonful, in water, twice a day for fifteen days, a dose to be taken before breakfast and in the afternoon.

This mixture is to be taken for fifteen days; then set the bottle aside and take the following for fifteen days:

℞

Acidi nitrici (C. P.)	♏ij.
Syr. aurant. cort.	℥iv.
Aqua destil. q. s. ad.	℥xvi.

Mix. Shake well before using.

Sig.: Teaspoonful in one-third glass of sweetened water, twice a day, before breakfast and in the afternoon.

The patient must be instructed to use soft water with this mixture and rinse the mouth well after taking it. This is to be taken for fifteen days and then this bottle is to be set aside and resume taking out of the first bottle, the medicine to be used fifteen days from each, alternately. The two pint bottles will last four months.

In addition to the liquid medicine taken twice a day, a No. 3 capsule is to be taken at bedtime, containing iodide of arsenic, one-thirtieth grain; powd. aloes and senna, āā, one-half grain. The bowels must be kept slightly relaxed, and, if too much, so as to be troublesome, the dose of aloes can be lessened. As an application to the face, the following is to be used:

℞

Powd. mur. ammonia	ʒij.
Aquæ Rosæ	ʒiv.
Aquæ destil. q. s. ad.	ʒxii.

M. Sig.: Apply over the eruption twice a day; should be allowed to dry on the face.

If the mixture should prove slightly irritating, it may be diluted with soft water.

I have tried to relieve patients without the acid and mur. ammonia part of the prescription, but the result was not nearly so satisfactory as when the full formula, as herein detailed, was given.

If any practitioner of medicine has relieved his patients of this hideous eruption in a shorter time than 90 or 120 days, and with a better class of remedies than I have recommended, I should be pleased to hear from him; but I can assure anyone, if they give this prescription, although somewhat complicated, a full and fair trial, carrying out all instructions with a steadfast and stern regularity, they will not be disappointed in the final result, as I certainly have not been with this prescription the past twelve years. I beg anyone who gives this prescription a fair trial to have the result given to the profession through the esteemed MEDICAL AND SURGICAL REPORTER.

DAVID T. KYNER, M.D.

Macon, Ill., August 24, 1896.

ABSTRACTS.

SPRAINS OF JOINTS AND THEIR TREATMENT.*

Because of their common occurrence, we are apt to overlook the importance of sprains, though the amount of damage in these injuries is often greater than it is in fractures. Constitutional causes, such as gout or rheumatism, and in some people a feebleness of the power of repair, have, it is true, much to do with the final result; excluding these, however, there are few injuries which yield more readily to the proper treatment, if we only observe two things. These are, first, to begin treatment at once; second, to see that our treatment is carried out in a thorough and systematic manner.

Before considering the question of treatment of these accidents, it might be well to consider the underlying anatomical causes which are responsible for most of these accidents. The development of the muscular system determines the strength and security of a joint. One can almost assert as a positive fact that sprains never occur unless the muscles are either weakened or tired out by prolonged exertion, or caught by some sudden slip unawares before they can recover themselves. Speaking generally, it may be said that sprains are the result of a twist so rapid and sudden that recovery cannot take place in time. The function of a joint is movement. Considering the way in which sprains interfere with this, the muscles which direct and execute these movements are as much concerned as the ligaments, which have only the passive mission of checking them when they become excessive. The question of diagnosis is, generally speaking, not difficult, though in sprains of some of the complicated joints it is often by no means easy.

Fractures near joints and, in children, the separation of the epiphyses of the bones, must all be excluded. Without an anesthetic, in the severe sprains of the larger joints, it is often impossible to make a positive diagnosis. Muscular sprains are, as a rule, distinguished by a peculiar sensitiveness of the skin, most marked over the joints or at the point of attachment to the bones or tendons. Very often after the joint has almost recovered from a sprain, and an imperfect diagnosis or no diagnosis has been made, we can clear up the matter, with some joints at least, by carefully observing the tender points. A tender spot just back of the greater trochanter nearly always affords valuable informa-

*John F. Culp, M. D., Steelton, Pa., in *Medical Record.*

tion as to a hip-joint sprain. In the knee this tender spot is toward the under side of the knee cap, slightly below the joint centre. With the ankle joint, while the sprain is constant, its location is not so constant, though it is usually toward the inner side of the external malleolus. The tender spots, probably, generally mark the location of adherent bands, or, perhaps, roughened synovial fringes, or sometimes spots where there has been extravasation of blood into the joint capsule.

Our results will depend on the earliness with which we see these cases, and on the thoroughness with which we carry out certain fixed indications. These indications are just three:

1. To limit the extravasation of blood and lymph.
2. To promote the absorption of effusion.
3. To promote the healing of the torn structures, and to restore the usefulness of the joint.

We can best control the extravasation due to broken blood-vessels by local applications, by placing the joint in the proper position and by the use of judicious pressure and thus securing rest for the joint. Unless the cases are seen within one or two hours after the injury or unless, later in the case, inflammation sets in as a complication, cold applications do not answer as well as do hot ones. Soaking the part in very hot water in delayed cases not only relieves the pain better, but it seems to produce a more permanent impression on the swelling. The various other local applications almost invariably owe whatever virtue they possess to the spirits they contain. We can, however, make an exception with the old time-honored lotion of lead water and laudanum. Much may be done to check the bleeding from torn vessels by placing the articulation in such a position that the joint cavity is diminished. If left to itself, in most sprains, we find the joint in a condition of considerable flexion. While this position gives the most comfort temporarily, it conduces to a continuance of the bleeding, because it enlarges the joint cavity to its full extent. We can rely on the judicious application of pressure, however, not only to limit the amount of effused material, but to relieve the pain as well. Pressure as usually applied by bandaging does more harm than good. The bony prominences which do not need it receive the support, while the hollows and irregularities about the articulation do not get any at all. It has been my practice to loosely envelop the joint with a couple of layers of absorbent lint which has been saturated with a lead-water and laudanum solution. Over this a good thick padding of cotton wool is applied, care being taken to make it thicker over the hollows and irregularities. Well-picked oakum is a good substitute for the cotton. A bandage carefully applied over such a dressing will make the ideal compression and support.

Sprains of most joints, when treated with proper local applications, position, bandaging, and rest, do not require a splint. It is good routine practice, however, to exclude from this the knee and the elbow, the two most complicated joints. It is well in these sprains to apply a felt splint if the injury is at all severe. Rest in these cases is a necessity, and while it is the first indication in this class of injuries, yet, after the subsidence of the swelling, in most cases we can begin movement within three or four days. Unless we have to deal with a rheumatic or gouty subject, this, as a rule, is not too early. Acute inflammation, so often dreaded as a complication, rarely comes on as a result of early movement. We must, however, know just what damage has been done before we begin to move a joint, or we may make matters worse. For example, in making passive motion in a sprain of the ankle, where the external lateral ligament is so often torn, it would be bad practice to adduct the foot. If, after cautious and well-regulated movements, the joint swells and becomes tender, it is well to wait at least a week or more before resuming movement.

The second indication in treatment to promote the absorption, is to be met to a great extent by bandaging and rest. After two or three days, soaking the joint in hot water, or, better still, a strong solution of vinegar and salt applied just as hot as can be borne for ten or fifteen minutes, three times a day, does much to soften and absorb the coagulated effusions. These baths should

be followed by frictions with some good stimulating liniment, the rubbing being done firmly but gently in the direction of the return current of the lymphatics. It is a most excellent practice to begin these frictions above the seat of the injury in order to empty the absorbents, so that they may the better accommodate the lymph from the injured tissues. This lymph is probably more viscid than that found circulating in normal vessels. If after ten days the thickening about the joint has not disappeared and there still remain tender spots in moving the articulation and on making pressure, counter-irritation by iodine, or, often better still, by a fly blister, is indicated.

In two weeks' time with the treatment outlined, we will nearly always find the joint which has been quite severely sprained, in good condition and ready for work. At this period sometimes, however, owing either to the severity of the injury or to some constitutional peculiarity, it remains painful and insecure, and even the slightest movement may cause acute suffering with swelling. The joint structures are in a condition of subacute congestion. What is now needed is absolute rest, and rest must be had or there will be a long history of disability, which may become permanent. A plaster-of-Paris splint will nearly always give the required rest. Put on properly, it will last at least a month, when, as a rule, it should be taken off and the joint examined. It may be necessary to reapply this splint one or more times, though usually four to six weeks of this treatment is enough. We are now in great danger of carrying our rest too far, and it often requires the nicest discrimination to tell when to begin forcible movements. Forcible movements are movements made with some force, let us understand, and when we are of opinion that they are necessary to break up any adherent bands and to restore motion to the joint, they should be carried out in a thorough manner. Half-hearted, inefficient attempts do more harm than good, and, by producing pain and swelling without getting motion, often doom the joint to still further rest, when rest does positive harm. The trouble at this time is to a great extent in the muscles, which really are the true ligaments of the joint.

Frictions with stimulating applications, together with the use of electricity, are extremely useful in restoring their tone and strength. The faradic current in these conditions is probably more generally useful than the continuous current, especially if there be simply muscular wasting and stiffness without much pain. When there is marked tenderness accompanying atrophy, the galvanic or constant current meets the indications better, not only improving the nutrition of the muscle, but removing the pain as well. The various elastic appliances which are so frequently worn after sprains, have much to do very often with keeping them weak and uncertain. They are of unquestionable value at times, but their indiscriminate use without the proper medical supervision does much harm. Constitutional treatment is often necessary; rheumatic and gouty patients often require colchicum and the iodides and the salicylates. Where there is a peculiar feebleness of the power of repair without any special diathesis, iron and strychnine are of great value.

In thirty-eight hundred cases of accidents, were recorded two hundred and sixty-one sprains of all kinds, or an average of one sprain in about every fifteen accidents. The least time for treatment was three days; the longest time eight months. The general average was a trifle over nine days. Sprains of the wrist, the ankle, the back, and the knee were the most common; there being forty wrist-joint sprains, which were under treatment about six days. Knee sprains, while common, are not so numerous as those of the ankle, there being twenty-six cases in this record, which were under treatment on an average of about twenty-three days; of ankle-joint sprains there were seventy-two cases, which got well on an average of about thirteen days. Sprains of the back were most numerous, there being eighty, with an average of eight days for treatment.

These back injuries were with few exceptions marked cured on the record, though as a matter of fact there are, it seems, few bad sprains of the back which are ever really cured permanently. In the total of eighty cases there was not one in which the spinal cord was seriously involved. The muscles or their

tendinous attachments, or the investing membrane of the fascia, were almost invariably the parts to suffer. There were but two cases of sprain of the elbow, and the same number of the hip-joint, while there were thirteen of the shoulder-joint.

A FEW SUGGESTIONS AS TO THE MUTUAL RELATIONS OF THE PROFESSION AND THE STATE.*

Medical men as individuals and the profession as a body, have interests which more or less constantly bring them into contact with the State as an administrative body. We meet problems whose solving cannot be accomplished without State action, and that action is likely to be delayed, mistaken or thwarted without our professional knowledge, advice and assistance.

There are, then, certain matters in regard to which our profession, as a whole, and we, as individuals, are in honor bound to give the community, through the organization of the State, our co-operation and our best aid, if we are to fulfill all the demands of good citizenship. And there are other matters, in regard to which the State owes our profession a debt of both duty and gratitude, which should be a debt of honor. To a brief consideration of both sides of the mutual relationship thus existing, it has seemed to me not unprofitable to devote our attention at this time.

It is a most proper thing that a body which represents the organized strength of the medical profession in this great Commonwealth, should set itself seriously and gravely to the task which is involved in the proper consideration of this subject. This society is the fighting unit which represents the character, the dignity, the rights and the privileges of nearly 8,000 practicing physicians and surgeons within the limits of Pennsylvania; but, in addition, we hold in our hands and we safeguard by our efforts, those interests that are superior to all personal consideration, namely, the life and happiness, the physical welfare and much of the moral prosperity of a population which to-day approximates 6,000,000 souls. With such interests confided to our care, it is eminently fitting that we ask ourselves gravely how we may meet the problems of state medicine, pressing for solution now as they have never done before; and it is fitting that we answer seriously, faithfully and bravely, after mature consideration.

Our duty to the State concerns us:

As citizens;

As doctors individually;

As an organized profession.

A man's value to the State as a political organization is enhanced by the intelligence of the man and by the integrity and activity with which that intelligence is employed in matters affecting the welfare of the State. If you accept this statement as I do, it then follows that the physician who willingly, earnestly and actively fulfills the ordinary demand of citizenship, becomes the State's most valuable citizen. There then opens up to him a larger field of usefulness, as a citizen merely, than to other men. His education primarily, and his manner of life secondarily, make him a factor in the community of more actual and more relative value than the ordinary man. With this added weight in the community comes the plain duty to exercise one's political privileges to the utmost, from reasons that are at once personal, professional and political.

To put it plainly: a doctor should take an interest in politics local, state and national. As a citizen, he should not only vote regularly, but he should go to the primaries and to caucuses. The time and place to make his influence felt for good in the political community is at the time and place that candidates are chosen; when their personal character is weighed in the balance, and when their friendship or antagonism for measures of proposed legislation will influence the choice of candidates. In

*W. S. Foster, M.D., before the Medical Society of Pennsylvania, May, 1896.

other words: if a doctor wants to make his knowledge of use to the community as a whole—if he wants his ideals to be framed into laws and made a part of the record of his State's progress, he must bear his part as a citizen in the simplest and most fundamental processes that contribute to the making of laws, or the choosing of those who answer yea, or nay, in the law-making body. It is not degrading to take an honest part in politics, but it is degrading to let dishonesty trample upon your rights. It is not degrading to strive to place good laws upon the statute books, but it is degrading to permit the enactment of bad laws because you are either too bashful, too busy or too indifferent to demand the enactment of good laws.

Our professional qualifications entail upon us certain special duties to the State just as certainly as they entitle us to certain special exemptions. It has been recognized by the law that the peculiar requirements of our calling are such as to justify our exemption from service as jurors. We are indebted to the community for this courtesy, small though it is. As medical men, we should endeavor to give an impress to the laws that are made. There is much of recent medical discovery that affects the welfare of the people and that may be properly embodied in our laws, and we, as physicians, are derelict in duty if we fail to impress such matters upon our legislators. The individual action of each physician means much in this regard. If upon subjects affecting the public health, each doctor in this State would seriously, earnestly and urgently impress his knowledge of the real facts upon some legislator of his acquaintance, it would not be long until really modern medicine would succeed in having placed upon our statute books legislation of real value to the people.

The care of the insane and the administration of hospitals of all kinds, have too long been under the supervision of non-professional men. It is humiliating to note the appointment of pushing politicians, third-rate lawyers and professional charity-mongers, to those positions of honor and responsibility in connection with the administration of hospitals and other charitable institutions. The actual work of these institutions is in too many cases performed without remuneration by members of the medical profession, and their familiarity with the needs of the institutions would properly enable them to demand recognition in the administrative, honorary remunerative appointments. But with scant courtesy medical men are usually dismissed from consideration when these matters are considered, with the too frequent false assertion that they are "not business-like" in their methods. If the appointments as made showed any real consideration for this argument, we might at least admit its sincerity, but the character of many of the appointees to those responsible offices is such as to absolutely negative such a supposition.

In other lines we owe service to the State, and we should at least proffer such service. How often have we felt that proper medical legislation might have been secured and vicious medical legislation prevented, had the medical profession as capable and as large a representation in our legislative halls as that of the legal profession? There are certainly enough physicians in this State who have at the same time a good professional standing, and sufficient political eminence to enable this society at all times to have from ten to twenty of its members in the State Legislature. They could not fail to influence legislation in a desirable manner and their service would be creditable alike to them as citizens, to us as a profession, and to our loved Commonwealth.

As an organization, there is much for this society to do for the State, and in doing for the State, to advance at once its own honor and the welfare of every citizen, however humble.

The re-codification of our laws relating to public health, especially as bearing upon such subjects as correct collection of vital statistics, the maintenance of the purity of our streams, the proper reporting and quarantining of contagious diseases, and the establishment and enforcement of regulations for the limitation of disease: these are propositions which it should be our privilege and our high duty to formulate and press to enactment at as early a date as possible.

There is ample reason why this is the

paramount duty facing us to-day. Pennsylvania's three largest cities have for years maintained an unenviable reputation for typhoid fever prevalence. That prevalence is not simply unnecessary. In the light of modern sanitary science, it is a crime; a crime so great, as cruel and as shameful, as the slaughter of the innocents in sacred history. A crime which the united voice of our profession must denounce and the awakened conscience of the Commonwealth bid to cease.

When the water supplies of the State have been purified, it is probable that the typhoid fever mortality of this State will not range much higher than that of smallpox, and there may yet arise a generation of physicians to whom the one disease will be as great a curiosity as the other.

And here our duty to the State and to our fellow-citizens, and the State's duty to us, both as a profession and as citizens, seem to intermingle, so that they can, with difficulty, be distinguished. We owe it as a duty to the State to elaborate a plan of action. The State owes it as a duty to us to accept that plan. We both must enforce it on behalf of that ignorant, helpless humanity whose cry rises to heaven and whose unnecessary sacrifice to an unnecessary disease must cease. If our united voices at this time express our unanimous demand for energetic action upon these matters, and if we each and all follow up that demand by personal, persistent interest and argument during the coming year, the next Legislature will be forced to give to our State Board of Health ample authority and a liberal appropriation for this work, and within a decade we shall behold its practical consummation proven by an annual typhoid death rate not greater than ten per cent. of the present one.

And now, from these necessarily brief thoughts upon our duties to the State, let us turn to the consideration of the duties of the State to the medical profession. The State owes us, first, a debt of gratitude. We have been over modest in asserting this claim, yet there is no other profession that has given so much to, and received so little from the State. From his earliest, most energetic student days, through the long and arduous struggle for professional recognition, in the culmination of a finally successful career, and on, into his tottering old age, the physician's life is one of constant self-sacrifice. There is made upon him a never-ceasing call for gratuitous service which is unlike that made upon a member of any other profession, trade, or business. His time, his advice, his strength, his medicine case and his surgical satchel are ever held by the populace as a free gift. No other man gives so much and receives so little. And I say this, not to disparage the nobility of true charity, nor to underrate the necessity for it, but to condemn that selfishness which demands as charity what it neither needs nor deserves as such. It is not simply the abuse of our freely-rendered services in dispensary work, but the added imposition of free service in hospitals to many who can well afford to pay the demand by City, County, and State for gratuitous service in positions of professional responsibility, and reluctant recognition by great corporations of the equality of our service with that of lawyers, engineers and business men. We are ourselves largely responsible for the low esteem in which these organized bodies hold our services, and for the grudging pecuniary recognition they accord us. We have competed too earnestly for their appointments and have practically underbid each other in our anxiety for personal recognition. And the mutual result is seen in the humiliating comparison of the positions our leading physicians and surgeons hold with leading lawyers and other professional men in official positions of responsibility.

It needs no long or searching inquiry to arrive at the underlying cause of this humiliating comparison. If the medical profession of Pennsylvania, in common with that of all other States of this Union, was not over-crowded, the unnecessary and unprofessional competition for professional appointments would be so lessened that we could afford to demand proper recognition and proper remuneration for our professional services.

Comparisons are well known to be odious, yet they are often instructive. Notwithstanding the undoubted honor of the position, no attorney would ac-

cept an appointment to the Supreme Court bench if no salary was given. Necessary to the public as are the services of a prosecuting attorney, what enterprising young man would give his legal services in such a position gratuitously? Nor does any attorney surrender the legal claim to his fee for conducting the defense of poor clients assigned him by the courts.

We have Boards of Charity whose business it is to investigate charitable institutions, and in some instances to disburse the moneys of the State and of the separate Counties. Has any one ever known of them refusing to accept their mileage? Or has the State ever failed to provide for its payment?

When a sanitary investigation is to be made, the attorney gets his fee for drawing up the papers; the engineer is paid for his expert services; the witnesses are paid for their time in court; the doctor alone must give his time, his services, and his advice free.

Are we not ourselves to blame for this condition of affairs? Have we not fallen over each other in offering the State our services gratis? Have we not cut each other's throats in our anxiety to secure "honorable" appointments, while we have forgotten to insist that honest service should be honestly paid for? Have we not made entrance into our professional ranks too easy, so that it has tempted the incapable, and the small-spirited, and at the same time deterred many who put the highest estimate upon themselves and their services? I do not answer these questions, but I ask them in seriousness, so that you and I and all of us may ponder over them in our hearts, and if we do not answer them at this time in plain words, the deeds of the future may speak with more definiteness and more effect than mere words.

Will the State ever treat our profession better than it has done in the past? To this we may safely answer yes. Our profession is year by year asserting itself, its rights, its privileges, and its dignity, as it never did before. The State cannot fail to recognize such rights and privileges when asserted with becoming manner and dignified statement.

SOCIETY REPORTS.

SECTION ON OPHTHALMOLOGY, COLLEGE OF PHYSICIANS OF PHILADELPHIA.

A stated meeting of the Section on Ophthalmology was held in the lower hall of the College of Physicians, March 17, 1896, Dr. William F. Norris, Chairman, presiding. Present: Drs. Friebis, Hansell, Harlan, Norris, Oliver, Randall, de Schweinitz, Shaffner, and Zimmerman, Fellows of the College; and Beaudoux, Bromley, Capp, Green, Krauss, Leopold, Lovelace, McGuigan, Mellor, Moorhead, Murdock, Palmer, Posey, Rogers, Schwenk, Shoemaker, Sulzer, Sweet, Tait, Taylor, Veasey, and Ziegler as guests.

Dr. George C. Harlan exhibited a

Case of Traumatic Enophthalmus

in a five-year-old boy who five months previously was wounded by the horn of a bull. The right cheek and temple and lower eyelid were lacerated, and the inferior margin of the orbit was chipped. There was also complete ptosis. At the time of examination, the tendo oculi was found to have been torn away and the lower lid was dragged downward and outward by the action of the orbicularis and the contraction of the cicatrix.

The surgeon who attended the patient at the time of the accident, reported that there was considerable orbital cellulitis with abundant discharge of pus from between the lids, but there never was any exophthalmus. He thought that the cellulitis was confined to the lower part of the orbit. At present, the eyeball is retracted and has the appearance of being very much smaller than its fellow. The cornea is situated five millimeters behind the plane of that of the other eye. There is scarcely more ptosis than would result from the depression and loss of support of the lid. When the patient looks directly forward, the palpebral fissure is five or six millimeters wide. He insists that he sees well with the eye. Though the movements of the eyeball are much restricted, no diplopia can be detected. There is complete inability to look upward beyond the horizontal line either directly or to the right or left. Horizontal movements

are normal and the downward excursion is much exaggerated. Dr. George Friebis spoke of his case of traumatic enophthalmus seen nine years ago, in which there was sufficient recovery to manifest but little difference between the two eyes; there being nothing left except a slight doubling of objects when looked at below the horizontal line. In his case there was no incarceration of the extra ocular muscles.

Dr. Francis M. Perkins showed a case of

Monocular Retinal Detachment with High Myopia.

Dr. Charles A. Oliver gave the clinical history of a case of

Ciliary Staphyloma and Excavation of the Optic Disc following Traumatic Cataract

in a four-year-old boy. The clinical picture of this case of complicated secondary glaucoma was so complete, having been studied from almost what may be termed its very incipiency to the final result, and the varying symptoms evolved from time to time were so at variance with what one would expect in such cases, that it offered itself as a most interesting and a most instructive study of this type of disease.

Unlike similar cases of sudden obstruction to proper lymph-stream circulation, there remained from the very first, as shown by the fields of vision. and, as afterward proven ophthalmoscopically, an element that may possibly complicate many more cases of the traumatic type of this disease than is at present imagined, and that is retinal detachment. Again, the condition of the vitreous and its peculiarity of opacities, taken in connection with the history of the case, would go far to show that there was a hemorrhage into that humor which most probably might have been recognized ophthalmoscopically had the patient been seen a week earlier. These, with a few though certain evidences of a low grade iridocyclitis, made the case still more atypical.

On the other hand, the progressive diminution of the field of vision ; the gradual distention of the globe, and the localized tissue-bulgings in the upper ciliary regions ; the deep and characteristic cupping of the nerve-head ; the reapproximation of the remaining areas of retinal detachment ; and the late fixedly increased intraocular tension, all show the certainty of degeneration even in a young and yielding eyeball, when such tissues are subjected to a persisting increased intraocular pressure.

As answer to the vexed questions of therapy in such cases, the author will leave this for another and more extended communication, reserving the present brief, though detailed account, of the clinical history as an interesting and useful exposition of a grouping of symptoms which have been carefully studied, and can be thus employed to illustrate the results of two conflicting contemporaneous conditions produced by traumatism ; localized inflammatory reaction and obstruction of lymph-stream circulation.

Dr. George E. de Schweinitz presented a

Further Note on an Unusual Form of Macular Lesion following Iritis.

The patient,a fifty-years-old woman,recovered with a nearly normal sharpness of vision, but with some vitreous opacities from a violent attack of serous iritis. The eye remained comfortable for eight months, when she appeared with a positive scotoma and the ability to see to count fingers only when situated in the periphery of the visual field. In addition to the positive scotoma which the patient described as appearing "like a dinner plate with a green edge," there was a small absolute scotoma about the horizontal level. Ophthalmoscopic examination revealed an oval reddish area, giving the impression of a disintegrating hemorrhage and containing in the center several white dots situated exactly in the center of the macular region. Dr. de Schweinitz referred to the unusually distinct macular ring which seemed to indicate that there must be some thickening in the periphery of the hemorrhagic area.

Dr. Oliver exhibited a water-color sketch of

A Case of Unusual Submacular Hemorrhage

forming a part of some very curious lymph extravasations in the retina without any vitreous disturbances, found in the left eye of a healthy sixty-five-years old woman upon whom he had successfully removed a black cataract by simple extraction some two months previously, the operation being perfectly smooth and the appearance of the interior portion of the eye normal in every respect. The sketch was made for him by Miss Margaretta Washington of this city.

Dr. de Schweinitz described the clinical history of a patient suffering from

Convergent Strabismus of the Left Eye

and a very high myopia 16 D. Ophthalmoscopically, the following lesions were present. A small posterior polar cataract, numerous fine vitreous opacities, and a horizontally oval optic disc, of a greenish-gray color. The nerve-head was imbedded in the centre of a huge mass of opaque fibers which followed the course of the principal vessels almost to the periphery of the eye-ground, and in all directions, but less markedly downward and to the nasal side. A small patch in the macular region was not covered by the opaque fibers, but was disturbed by superficial choroidal changes. There was almost complete loss of nasal field and of the entire center of the visual field, with exception of a small area to the nasal side of fixation, about ten degrees in diameter, within which the white test object was dimly seen. Colors were correctly appreciated when held in the temporal field.

The case was illustrated by a water-color drawing made by Miss Washington.

In the discussion, Dr. B. Alexander Randall showed a card-specimen of a case of retained nerve-sheaths in a case that had been sent to him for supposed intracranial disturbances. In this case there was an isolated patch situated in the macular region. Dr. Oliver exhibited the drawing of a case in which the medullation began at the edge of the disc and divided into two comet-like processes extending along the lines of the larger retinal vessels, this case having been seen through the courtesy of Drs. Goodman and Ziegler at the Wills Eye Hospital. He also spoke of a drawing that was made for him by Dr. Randall, which was one of the most extensive of annular types that he had ever seen. The case occurred in a nine-year-old highly myopic boy who never had had any subjective symptoms of the condition.

Dr. James Thorington, by invitation, exhibited an

Asbestos Cover-Chimney with Disc-Attachment for Ophthalmoscopic Purposes.

The original form with the disc-attachment he had made two years previously. The present arrangement showed that five changes could be made in the disc. (1) The one centimeter opening fulfilled all the purposes of the original chimney. (2) The two centimeter opening permitted greater freedom of movement on the part of the observer, without moving the light. (3) The three centimeter opening may be used as a source of light for the concave skiascope, or for the ophthalmoscope, otoscope, etc. (4) A round section of cobalt blue glass for the chromatic aberration test of ametropia had been added, as likewise: (5) The perforated disc, with perforations and spaces each 1.45 millimeter to test for astigmatism at one meter's distance. The author stated that he had a new form of contrivance in the course of preparation, which will have a simple shutter with different changes in it, to work up and down in front of the opening in the asbestos chimney by means of cog-wheels. He will also employ a horizontal slip one-eighth of an inch wide to exercise the oblique muscles as suggested to him by Dr. Savage of Nashville, Tenn. Dr. Charles Shaffner strongly recommended the asbestos form of chimney as it radiated but little or no heat and was always sufficiently cool to handle without burning the fingers. It had been his intention to present one that he had been using for some time, but as he considered that the present form and the one recently brought forward by Dr. M. W. Zimmerman were much better, he had refrained from so doing.

Dr. Thorington showed a new form of

Perimetric Lenses,

which received their name from the fact that their optical center corresponds to the points of fixation in the fields of vision. The reasons given for the recommendation of the lens, were, that it gives to the eye that form of lens which is consistent with a normal form of the visual field; it removes the edge of the lens to a sufficient distance that the edge cannot be seen to any great degree while the eye is fixed straight ahead; and that bifocal segments can be made much larger. He stated that the increase in weight need rarely exceed the ordinary form of twenty-five to thirty grains; the large size does not attract much attention: and the cost will remain the same as in the ordinary styles used. Upon account of necessary great weight and thickness, he believed that this form of lens can not be used for cases of aphakia and high myopia, but showed that as this class of cases constitutes much less than one-half of all refraction cases (37 per cent.), the lens will be accepted in the majority of instances.

Dr. Oliver exhibited and demonstrated a series of

Microscopic Specimens

showing the various forms of eyes seen in fish, reptiles, birds, quadrupeds and man. He showed the marked differences in the conditions of the dioptric media; the varying shapes of the eye-ball; the relative positions of the eye in the head of the animal; the adaptations for near- and for far-focussing; the arrangements for increase of the interior illumination; the positions and peculiarities of the nerve structure; and the relationship existing intra-cranially between the two organs, in the aquatic, the terrestrial, and the aerial forms of animal life.

The Section then went into Executive Session. Upon motion, adjourned.

CHARLES A. OLIVER,
Clerk of Section.

The treatment for acute articular and chronic rheumatism is outlined by Dr. T. H. Barker, of Louisville, in the *American Practitioner and News*, as follows:

1. In acute cases, the salicylates will cure a large number in fewer days than any other known mode of treatment.

2. In chronic cases, the salicylates are unquestionably serviceable, either alone or in combination with other drugs.

3. While the salicylates neither prevent nor ameliorate the cardiac complications (except by lessening the number of days the patient is exposed) they certainly do not produce nor aggravate this complication.

4. Under the salicylate treatment, relapses are not so frequent as in other modes of treatment, provided the administration of the drug is not suspended too suddenly after the cessation of the pyrexia and articular symptoms.

5. In uncomplicated myalgia, the salicylates render little or no benefit.

6. As from fifty to sixty per cent. of all cases of rheumatism are attended by cardiac complications, the proper protection of the heart is the most important indication to be fulfilled.

PERISCOPE.

NEWS AND MISCELLANY.

The nineteenth annual reunion of the Pennsylvania and Maryland Union Medical Association was held at York, Pa., August 27th, and Dr. Joseph Price, of Philadelphia, was elected president for the ensuing year.

A position as permanent resident physician at the Philadelphia Hospital is vacant and is shortly to be filled. For the proper incumbent the position is a most desirable one, offering large opportunities for a wide experience. A fair salary is paid and residence and board in the hospital are provided.

Dr. W. M. L. Coplin, professor of pathology and bacteriology in the Jefferson Medical College, is in town to arrange for and superintend the furnishing of the new laboratories of the college, which are to be located on the fourth, fifth and sixth floors of the new building. Dr. H. F. Harris, a newly-elected associate in pathology, of the Jefferson Medical College, will take charge of the new laboratory under the direction of Professor Coplin. Dr. Harris has for a number of years been professor of pathology in the Southern Medical College, at Atlanta. There is now $10,000 worth of special apparatus lying in New York harbor for the new laboratory and when the furnishings are all in place the new laboratory will not only be the best equipped, but the finest in the United States.

In the management of cases of minor surgery of the face it is desirable to avoid the use of bulky dressings, because they are not only disfiguring but uncomfortable and annoying to the patient. The delicate integument of the face is also readily irritated by many antiseptics and it is advisable, therefore, to make use of an antiseptic which, while free from all irritation, will sufficiently prevent the development of septic processes. In the last few years numerous reports have appeared which clearly demonstrate that europhen is eminently adapted for this purpose. It forms a protective layer over wounds, under which healing proceeds rapidly. The formation of granulations is stimulated and cicatrization is complete in a remarkably short time. As europhen is a fine bulky powder, only a small quantity need be dusted on the wound and the absence of disagreeable odor and freedom from irritating properties renders it vastly superior to its congener iodoform. The fact that europhen forms an antiseptic crust over the wound which is firmly adherent and not displaced by muscular contraction renders it possible to dispense with bulky dressings. After its application a few layers of gauze fixed with a bandage or a cotton collodion dressing are all that is required. Dr. R. W. McClelland (*Hahnemannian Monthly*) recommends that in the final dressing of wounds of the face a little europhen be dusted over the surface of the wound and a compress of borated gauze held in position by strips of adhesive plaster. The europhen should not be applied unevenly or in too thick a layer so as to avoid pressure of the edges of the wound destroying the line of union.

In the chronic form of inflammatory diarrhea, the treatment consists mainly in a careful regulation of the food. Milk in such a case is an irritant poison which must be strictly forbidden; and starches are digested with difficulty, and must be very sparingly allowed. In the insidious beginning of the disorder, when large, pasty stools are being passed, the child, if an infant, should be fed with weak veal-broth and barley-water in equal proportions; whey with cream; the yolk of one egg beaten up with broth or whey; and Mellin's Food mixed with whey or barley-water. The meals should be frequently varied during the day, and the quantity allowed must be strictly proportioned to the infant's powers of digestion. For medicine, he may take a powder of rhubarb (gr. ij.–iij.) and aromatic chalk (gr. iij.–v.) every night for three nights; and in the day, a mixture composed of half a drop or a drop of laudanum with four or five grains of the bicarbonate of soda in some aromatic water.—Eustace Smith, M.D., *Disease in Children.*

The Chinese have the following methods of predicting the sex before birth, which are generally accepted by European residents of that country, according to J. J. Matignon, in the *Archives de Tocologie et Gynecologie:* A round, prominent abdomen, projecting forward so as to interfere with locomotion, indicates a girl, while a uterus extending very high upward means a boy. A fresh color of the skin, with only a slight pigmentation, especially of the areola, and slight change in the features, points toward a girl, the opposite condition to a boy; violent movements of the fetal extremities also indicate a girl. When, after the seventh month, the right hand of the fetus can be felt moving in the left side of the mother's abdomen—there may be some doubt about the mother's ability to distinguish the right hand of the fetus from the left—it is male. The most interesting methods cited are two which point to a very high development of the mathematical faculty among the Chinese. The first depends upon the second figure of the mother's age and the probable month of conception. If both figures are odd or both even, the child will be a boy. If one is odd and the other even, a girl is expected.

A method of throwing pain off on a short circuit is lately troubling the lay press in Ohio. It is claimed that a leading physician in that State has been experimenting for eighteen years, endeavoring to work out this idea. This doctor reasoned that if the crossing of electrical wires produced a short-circuited current, or stopped it from reaching a certain point to which it otherwise would have traversed, so also there must be a way to cross the nerves of the face, and produce a short circuit in that. In this is said to lie the power of his invention. A very ingenious apparatus produced is described as having been devised by this physician. It deals with minor currents which can be controlled to the minutest fraction by the operator. An electrode is placed over the nerves near the temple, and one wire is attached to a drill, by which a tooth is excavated. The wire over the nerves makes a short circuit through the tooth and face, and in this way the sensation is prevented from reaching the brain, and the patient, of course, enjoys what would otherwise be a painful process of tooth-pulling. The inventor claims that it can be applied to surgery as well. If so, says the *American Medico-Surgical Bulletin*, it will probably be possible for the patient to enjoy life reading his paper and sipping his morning coffee while having a limb amputated, and death from chloroform and ether narcosis will become a thing of the past.

Whether or not there are real cardiac affections, directly or indirectly due to gout, is a matter of some doubt. According to Dr. Schott (*Berlin Klin. Woch.*), every symptom occurring in a gouty patient must not be attributed to the effect of this disease. The chief evidence must rest upon clinical experience. Chronic cardiac disease rarely occurs in cases of typical gout. In irregular gout, the greater number of cases occur in men over forty. In ordinary gout, the heart is often temporarily affected. In the acute attack, there is often pain in the precordium, palpitation, and even intermittency. Cardiac debility, with more or less marked dilatation, feeble heart sounds, etc., are further proof of affection of the heart. If the attacks are infrequent, the heart recovers completely, but if they occur often, a lasting cardiac debility remains. In irregular gout, the picture of the cardiac affection is more variable. The more frequent occurrence of sclerotic changes in the valves is more important, but the difficulty lies in excluding other causes of such disease. In some cases, the author has definitely been able to exclude other causes, and he specially records a case in which a valvular lesion developed under observation. Gout most often leads to motor and sensory cardiac symptoms. Palpitation is frequently seen. True tachycardia may arise, and even precede the attack of gout. When the gout appears, the cardiac symptoms vanish, but they usually reappear afterwards. Pain in the cardiac region is the slightest sensory disturbance. The cardiac debility may cause a sense of anxiety in the precordial region. Typical angina pectoris may develop. Such attacks may not represent the worst forms of angina, and the author refers to a case in which, after a certain number of such attacks, no further one appeared. Frequent recurrence of such attacks shows that they are a true angina, due to a gouty sclerotic origin. The author does not think that gout can produce a primary myocarditis without previous affection of the coronary vessels.

The ideal dressing for the wound in celiotomy, according to Dr. Augustin Gœlet (*Clinical Recorder*, July, 1896) is one which has no disagreeable odor and will keep it perfectly dry. This will prevent germ propagation. He now uses a boro-phenate of bismuth known as markasol, which has given more satisfaction than anything else that has been employed. This is antiseptic without being irritating and is slightly absorbent and astringent. It will absorb the first oozing from the wound but holds in contact with the margin of the wound the protective lymph which is thrown out to favor union. It is dusted plentifully over the wound covering it and the sutures completely; over this is placed a layer of plain sterilized absorbent gauze and over this several layers of absorbent cotton, which is held in place by strips of rubber adhesive plaster (nearly encircling the body) and a many-tailed bandage. This dressing may be left undisturbed until the sutures are removed. Then the same powder is again used and a similar cover dressing reapplied. Since adopting this method of dressing laparotomy wounds they have given no trouble whatever, and have invariably healed by first intention, and the eschar is firm and unyielding.

Cases of beri-beri sometimes occur on homeward-bound ships, the following being reported by R. W. Hodges, medical officer of quarantine at Queenstown, the article appearing in the *Birmingham Medical Gazette*. He says: When I visited the bark "Alexander Lawrence," on June 23, 1896, I found the captain and five men ill, the captain slightly, with difficulty of breathing on exertion, and weakness of the legs. The five men suffered from defective vision, loss of memory, swelling of legs, paralysis (multiple neurosis), and absence of patella and other reflexes, shooting pains in legs, heart region, chest and abdomen, hoarseness, anesthesia of front of legs and inside of thighs and abdomen, no dorsal pain. One man had paralysis and anesthesia in patches from neck downwards. I diagnosed these cases as "beri beri," and may state that this is the fourth ship which has been at Queenstown with similar cases. As well as I remember, three ships came from Java and one from Ship Island, this latter vessel having gone direct from Dublin to Ship Island. As to the cause of the disease, I cannot speak, but

believe that attention ought to be called to the fact that lime-juice has not been used on the voyage. I may also state that there were no symptoms of scurvy amongst the crew, and that Dr. Woods, of Eglinton Asylum, Cork, has seen those cases, and believes them to be identical with the cases in the Dublin epidemic of a few years ago.

Red noses cause their possessors much trouble and are not a joy unalloyed to the medical man who is called upon to modify their tint. Lassar, in *Derm. Zeitschrift*, recommends scarification after various methods of exfoliation have failed. Fifteen to twenty per cent. resorcin paste is his favorite agent for producing the exfoliation. A superior method to scarification, since it leaves only fine scars, is acupuncture, done with forty points mounted on a solid disc, one centimeter in diameter, which is worked by an electromotor and stamping machine like that used in filling teeth. Thousands of pricks, very light and of desired depth, may be done in a few moments. Consecutive treatment is rarely necessary. In rhinophyma, which he regards as an adenocystic fibroma without epithelial proliferation, Lassar removes the hypertrophied tissue by ablation or decortication, covering the surface with Thiersch grafts, or leaving it under iodoform collodion, which in many cases serves as well.

Scarlatinal polyarthritis is the name given to the joint complications of scarlet fever by Dr. Berg, in an article in *Pediatrics*. He does not believe that they are rheumatic, and says that there are four varieties due to a mixed secondary infection, neither scarlatinal virus nor rheumatic fever, but nevertheless feebly contagious. He classifies the disease: (1) Simple dry inflammation with little swelling; (2) simple synovitis with serous effusion and swelling, which, with the accompanying and less prominent inflammation of the joint structures, gradually subsides in a week or so; (3) simple synovitis, going on, it may be, to suppuration, but especially characterized by osteitis, with or without bone necrosis; (4) rapidly fatal condition in which there is purulent inflammation of many joints, which quickly destroys them and involves in suppurative processes even the shafts of the bones. The prognosis is good for the first and second class; almost hopeless in the fourth. By massage and passive motion, patients of the third class will usually recover the motion. He recommends prevention of contagion by separation, as far as possible, of patients from each other, and prevention of the secondary autoinfection of patients by frequently irrigating the throat. Pain may be eased by phenacetin cautiously used. Salicylates and other antirheumatics seem to do no good. In severe cases, joint drainage, etc., may demand consideration.

The management of cases immediately following operations is a matter of great moment as regards favorable results. Sir Thornley Stoper writes, in the *British Medical Journal*, upon the subject, reducing the main points to the following formulæ: (1) The tendency to prolong operations must be carefully guarded against, as it is a grave cause of danger. (2) In the treatment of shock and vomiting following operation, we get no help from the stomach, and must rely on the rectum as its substitute. (3) Heat, alcohol and opiates are our best remedies; and the latter are well borne and must be intelligently used to their full effect. (4) Drugs of the class ordinarily used to check vomiting are of little or no use in the cases under consideration. (5) Ice does not relieve thirst and does harm by introducing water into the stomach and so provoking vomiting.

For insurance purposes, all syphilitics are classed in the following groups by Dr. P. H. McLaren, in the *Edinburg Medical Journal*, without reference to general mortality statistics: (1) If a man has been properly treated, the probabilities are that, provided he is of good constitution and habits, no complications will arise, and the expectation would be that he will go through life with scarcely more appreciable risk than one who has never had the disease. (2) If proposer has not undergone a sufficient course of treatment, and applies for insurance before the expiration of six years, the period at which the disease normally terminates, and yet is not suffering from any tertiary manifestations, and is otherwise satisfactory, the chances are that he may escape the malign form, but ten per cent. extra should be charged until the expiration of the six years, and the case then reconsidered. (3) When tertiary symptoms have developed, the proposal should be absolutely declined, because, while treatment may temporarily remove these, it cannot eradicate the tendency to recurrence; and clinical observation has shown that those so affected rarely live beyond a term of ten years, and often much less when palliative treatment is not carried out. While his personal experience is almost absolutely favorable regarding the prognosis of the cases included in Class 1, it is questionable when the cases are looked at, with the interests of the offices perfectly safeguarded, if they should not practically be treated in the same way as those in Class 2.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2064. SATURDAY, SEPTEMBER 26, 1896. VOL. LXXV—No. 13

ORIGINAL ARTICLES.

THE USE OF ALCOHOLIC STIMULANTS IN TYPHOID FEVER.*

THEO. P. SIMPSON, M.D., BEAVER FALLS, PA.

Nothing in therapeutics has given me more concern than the administration of alcohol in fevers. There is nothing in medicine about which so much has been written and so little, comparatively, settled beyond dispute, as the question of the use of alcoholic stimulants. The results of experiment and of experience are contradictory; and there are many able men in the profession who hold that the use of alcohol in fevers has done more harm than good.

That alcohol is a powerful drug which may do serious damage in careless hands, no one will deny; and that there is much less than the usual care exercised in giving this remedy, seems to be a fact. So accustomed are we, apparently, to witness its daily use as a beverage, we forget that it is a drug; a remedy the proper use of which requires more than ordinary judgment, to secure the best results. This brief paper is offered in the hope that, without attempting to be exhaustive of the subject, it may lead to a more thoughtful consideration of the real value of this agent in fevers, and especially in the typical condition of continued fever called typhoid.

Typhoid fever being essentially adynamic and continuing for a long period, makes heavy drafts on the strength of the patient, and this has led many physicians to prescribe alcoholic stimulants from the beginning of the disease, in large quantities, under the erroneous impression that diseases characterized by depression are best treated by arterial stimulants. That this is an error there is no doubt; and such treatment frequently defeats the object it was sought to gain. If the patient recovers it is in spite of the treatment, not on account of it.

When alcohol does no good it does harm. It is a serious question whether the abuse of it in typhoid fever has not done more mischief than all the good it has accomplished. My purpose is to call attention to, and to condemn the apparently increasing practice of giving alcohol in stimulating quantities to all cases of typhoid fever, as a matter of routine. Nothing could be worse practice. The large majority of cases

* Read before Pennsylvania State Medical Society, May, 1896.

require no stimulation at any time; a few are benefited by small doses, and only rarely are large quantities justified.

The danger is from nervous exhaustion and heart failure. It is not only useless to give alcohol in the early stage of the disease, in the expectation of preventing the occurrence of these conditions, but it is most likely to hasten their appearance.

It has been said that mankind does not need to be informed so often as reminded, and with this thought in mind, attention is called to a few well known but frequently overlooked facts about the action of alcohol in support of the statement just made.

In moderate quantity it induces a superficial congestion of the mucous membrane of the stomach, and this increased blood supply causes a more abundant secretion from the mucous follicles and gastric glands. In small doses, alcohol increases the digestive power by thus producing a larger supply of the gastric juices.

On the other hand, large doses impair digestion by precipitating the pepsin, an albuminoid ferment acted upon by strong alcoholic solutions. Frequent and long-continued over-stimulation of the gastric mucous membrane results in a gastric catarrh, and the mucous glands discharge a pathologic secretion. The abnormal mucus secreted acts as a ferment on the starchy, saccharine and fatty elements of the food, and thus both the disability and the distress are increased.

As to what becomes of alcohol after passing from the stomach into the blood, opinion is divided. Whether it is a direct food or in some occult way furnishes force to the system, or whether it is merely a dangerous stimulant, the reaction from which may be more harmful than could be compensated by primary beneficial effects, is not settled to the satisfaction of all. But the fact seems well established that alcohol is a useful remedy in the small quantity which increases but does not impair digestion, which quickens gland secretion but does no harm by over-stimulation, and which is within the limit of the powers of the organism to dispose of by the processes of oxidation.

Alcohol passes with extreme rapidity into the blood. It has a special affinity for nervous matter, and acts quickly on the heart, causing more powerful contractions of the cardiac muscles. Herein lies the danger from too early or too free use of this drug. Is it wise to risk over-stimulation or to lash these delicate organs to laborious action unnecessarily? Is it not better to conserve their energies by making sure of the digestion and giving other remedies to preserve the integrity of these organs.

Typhoid fever being an adynamic disease of definite duration, our aim should be not only to employ every means which tends to increase the resistance of the body to the disease, but first as carefully to refrain from the use of anything which lessens the vitality and promotes the tendency to exhaustion. Let us be sure that we assist nature, but do not hamper her nor prostrate her efforts.

As the disease progresses, if signs of faulty digestion appear, small quantities of alcohol will improve this condition and at the same time enable the patient to take more food, thus assisting to sustain the strength until the vital organs affected can reassert themselves. Frequently the quantity necessary to secure this tonic effect may be found in the light wines or in one of the various liquid peptonoids which contain from sixteen to twenty per cent. of alcohol. With this may be combined essence of pepsin, muriatic acid and strychnia, forming a mixture more palatable to the average patient than the plain beef preparation.

Without desiring to enter into a discussion of other features of the treatment of typhoid fever, it may not be out of place to express the opinion that if strychnia is administered regularly, beginning early in the disease, there will be less danger of nervous exhaustion and all that it implies. Should this plan of stimulating the digestion and giving strychnia to sustain the nervous energies be persistently adhered to, there will be less danger of collapse of the brain or heart, and the cases needing arterial stimulation will be few.

As a rule to which there are few exceptions, alcohol as an arterial stimulant does harm during the first two weeks, or before the secondary fever

appears. But, if during the latter part of the second, or in the third or fourth week the signals of approaching failure appear, then the time has come for the use of alcohol in doses sufficient to steady the flagging heart and brain; and the response will be much more prompt and satisfactory than could have been had the whip been applied from the beginning and the heart muscle exhausted by useless overwork.

Even now, however, great care is needed, not to over-leap the mark. Only sufficient stimulus should be given to hold the pulse steady in number and volume and prevent the threatened brain exhaustion. Whiskey is the best of the alcoholic preparations for this purpose, but the tonic mixture mentioned may also be continued.

The quantity of whiskey necessary is only to be determined by its effects in each case. If the intellectual faculties brighten, the subsultus, carphologia, etc. improve and the systolic sound of the heart becomes more distinct, the remedy is doing good and the dose required to secure these results should be continued. Inebriates and special cases may need so much as one pint during twenty-four hours, but it is seldom that more than six to eight ounces should be administered. Careful attention should be paid to the action of the kidneys, for if albuminuria is present the use of alcohol in large quantities is extra hazardous and frequent investigations of its effects on the secretions should be made.

Good judgment will also be required to determine when and how the whiskey is to be discontinued. There is some danger of extending its use too far into convalescence and thereby permitting the patient to become addicted to it, or of producing serious alterations in the stomach by its long-continued irritant action. The quantity should be gradually reduced and discontinued altogether so soon as the signs of heart and brain exhaustion disappear, the tonic doses before mentioned being continued until normal digestion is re-established.

It is not the purpose to discuss the unusual cases or accidental conditions of typhoid fever in which alcohol may be useful. The object, as stated at the outset, is to protest against the habit many have of giving alcoholic stimulants in large quantities, without careful study of the requirements of individual cases, and it is hoped that this pernicious practice may be more generally recognized and condemned.

Advertising Both Houses.

It is a peculiar belief among the youngsters of many families that the new baby sister or brother is the gracious gift of the family physician, and this belief is generally based upon the solemn assurance of papa and mamma, who have to tell some fairy story in order to tide over those events that occur occasionally in the best regulated families. Now and then a boy takes the law into his own hands and makes a mess of it. An instance of this kind was related at the last meeting of the Medical Society. It seems that the young son of a well-known tailor and the young son of a well-known doctor were very chummy, and the former accompanied the latter one afternoon on an advertising expedition. The advertising was done by means of a paint brush being quickly traced over any smooth piece of wood or stone encountered, and called upon the male population to purchase their trousers from Brown. Well, in the evening the doctor's hopeful returned, and his paternal derivative asked him what he had been doing during the day.

"Advertising," quoth the boy.

"Advertising whom?" inquired the father.

"You and Mr. Brown (the tailor)."

"Me?"

"Yes."

"How did you advertise me?"

"Oh, we fixed up a sign that said, 'Buy your trousers from Brown and your babies from Dr. Jones,'" said the boy, calmly.

The doctor gasped for breath, thinking that the boy was having undue fun with him, but he soon found out that his hope and joy was telling the truth, and it cost him money the next day to go over the boy's route and rub out all the advertisements.—*Rochester Post Express.*

ELECTRICITY IN GYNECOLOGY AT THE HOWARD HOSPITAL.*

G. BETTON MASSEY, M. D., PHILADELPHIA.

At a time when the attention of practitioners specially interested in the diseases of women is so largely occupied with the mere operative treatment of these affections, it is worthy of note that through the liberality of the Managers of the Howard Hospital in this city, a complete equipment has been provided for the application of electricity to suitable cases of these affections, affording an opportunity for the worthy poor to obtain the benefit of this remedial agency in the dispensary and wards, as well as pay-patients in the private rooms. The result has been a distinct broadening of the scientific and philanthropic work of an institution that is well represented by able practitioners in the other departments of medical work.

By way of preface to this brief review of it, I may say that the electro-therapeutic work at this institution has not been conducted with any hostility to other modes of treatment commonly employed in similar cases, though a special effort has been made to show its comparative value in certain affections in the interests of both science and humanity; and particularly, it should be said that no pretension has been made that it is adapted to the cure of all of the diseases of women. It is but a helpmate to the other remedial agencies of a well-equipped general hospital or important medical center, the youngest helpmate in fact, and dealing as it does with a force that is the latest and most valuable acquisition of mankind, has demanded the unremitting attention of special workers, that knowledge and skill already acquired may be usefully applied and new scientific facts discovered. That its practice trenches upon the alleged field of other workers is a mere assumption on their part. There are no preserves in the practice of medicine that can successfully resist the inroads of a better form of treatment, and no truly scientific workers will set up any other standard of action than the best interests of the patients confided to their care.

The cases accepted as appropriately treated by electricity in this department have been strictly gynecologic, the majority presenting evidences of chronic inflammations, exudations or hypertrophies of the pelvic organs, neoplasns, pathologic displacements or disturbed innervation, including certain neuroses with pelvic manifestations and post-operative painful affections.

During the eight years that this work has been conducted a considerable experience has been accumulated, leading to conclusions that may be of general value when summed up in concise form.

FIBROID TUMORS.—Thirty cases of fibroid tumors of the uterus have been under treatment for varying periods, including several now in attendance. The results accomplished have been reasonably good, considering the roving nature and imperfect intelligence of the majority of clinic patients, many of whom fail to attend regularly, or stop altogether after their discomfort has been removed. A submucous tumor in one case was expelled from the uterus by electrically induced contractions. Three tumors disappeared almost entirely by absorption, one of them so large as to fill the abdominal cavity below the navel. In eight cases there was symptomatic cure and great reduction in size. In another eight cases symptomatic cure and slight reduction in size was the result. In two cases there was cure of the symptoms but no reduction in size. Four cases are still under treatment with a favorable outlook. In one case only was there no improvement. Three cases failed to continue the treatment after so slight a trial of the method as to leave the possibility of benefit undetermined.

Including the symptomatic cures of tumors that were arrested in growth, with or without reduction in size, the list shows that twenty-two cases were practically successful. As seven are

*Read before the Philadelphia County Medical Society, September 9, 1896.

still under treatment or were lost sight of after insufficient treatment, we have twenty-two practical successes, contrasted with but one known failure to improve, or about ninety-five and one-half per cent. of successes and four and one-half per cent. of failures.

No bad results whatever attended the treatment of any one of the cases, and practically no discomfort attended or followed any of the applications. Two cases were, however, operated upon by colleagues after the cessation of treatment, one of these, tabulated as the only case receiving no improvement after a proper length of treatment, dying under the knife, and the other, tabulated as receiving insufficient treatment, being successfully operated upon by Dr. Hamill.

An impartial review of these cases cannot do otherwise than convince the unprejudiced that the electric control of the nutrition and forced absorption of fibroid tumors may be brought about in a considerable proportion of cases, and that a surgeon is not warranted in subjecting a case of this nature to the dangers and uncertain consequences of an operation for removal until the possibilities of the Apostoli treatment have been fully tested. The conditions which contra-indicate the Apostoli method have now been fully defined, and include purulent formations in the tumor or its neighborhood, and cystic degeneration of the tumor itself. The existence of cystic degeneration is easily ascertained by palpation, and purulent inflammations of the adnexa are now also capable of being predicted with great certainty by means of a special diagnostic response to electric treatment, which has been pointed out by Apostoli. It has been ascertained that if the faradic current fails to relieve the pain complained of temporarily, and if the pain is aggravated by an intra-uterine galvanic application, the existence of a subacute purulent inflammation may be predicted with confidence. In such cases electricity intelligently applied becomes of great service to surgery in demonstrating the necessity for an early and thorough operation for the removal of a tumor that is unadapted to any other treatment. The one case mentioned as not relieved in any way by electric treatment gave distinct responses of this nature, intense cramp-like pain being provoked by intra-uterine treatment. At the operation an ovarian abscess was found on one side and a cystic ovary on the other, both presumably of gonorrheal origin.

The treatment of some of these cases was tedious, and in the end some of the twenty-two successes have bunches of harmless fibrous tissue still remaining in the uterus, but each one of these patients presents a final result infinitely superior to the results attained in successful cases of hysterectomy for fibroid tumors in the following particulars, aside from the fact that their lives have not been placed in jeopardy: they still possess their ovaries and the womanly functions dependent on these organs; they have no abdominal scar, with existing or threatened hernia at its site to render their condition about as miserable as before seeking relief, and they have had no stump left in the abdomen to become attached to the intestines to produce after-pains and constipation.

Chronic Metritis.—Of a large number of cases of chronic metritis, or hyperplasia consequent upon catarrhal inflammation of the uterine cavity, sixteen cases are recorded in the hospital-books as receiving electric treatment. Of these as many as thirteen were cured, two improved, and one not improved. The cured cases reported complete relief from pain and bearing-down sensations; the uterus was found to be shrunken to near or quite its normal size; and some of them reported subsequent pregnancies.

Chronic Perimetric Inflammation.—Fourteen cases of chronic perimetric inflammation, that is cases in which the uterus was enlarged, fixed, and surrounded by inflamed and adherent tubes and ovaries, were under treatment, six of which were cured six improved, and two not improved.

Chronic Ovaritis. — Of the same general nature were four cases of ovaritis, two of which were cured and two improved.

These three groups of cases constitute a very important portion of the affections for which parous women seek medical help, and when it is remembered that a common pathologic factor enters into them all—simply an arrested res-

olution following a microbic invasion, or germ-phagocytic contest, it is clearly evident that a line of treatment is indicated for all that will arouse dormant nutritive energies and assist the local tissue-scavengers, the phagocytes and lymphatics, in re-conquering the territories in which they have been so far defeated. Embryonal cell-proliferation and tissue-degradation are but other names for the debris and disorganization of this drawn battle, and it behooves us to step in and assist in reorganization rather than lop off these territories in hasty despair.

Post-Operative Pain. The next largest number of cases under treatment were suffering, strangely enough, from that new disease with which many American women are now destined to spend the remainder of their days—post-operative pain and neuroses. It is a sad warning that eight cases applied for treatment for pains, aches and ill-health following removal of the ovaries or removal of tumors, in each case the condition being worse than before the operation. From two to five years had elapsed since the operation in each case, eliminating the mere climacteric symptoms that all have to go through. One of these cases was entirely relieved, three improved, and four remained unimproved.

Carcinoma.—One case of incipient, but undoubted, carcinoma of the breast was cured and has remained well. Two cases of carcinoma of the cervix were temporarily improved and one not improved. The value of zinc-amalgam cataphoresis is only now being tested in this affection, and it is my intention to make a full trial of the method in carcinomata that are strictly local.

The remaining cases of interest may be reported in tabular form:

	Cases.	Cured.	Improved.	Became Worse.
Subinvolution	7	7		
Menorrhalgia	5	4	1	
Endometritis	4	3	1	
Retroflexion	2		2	
Retroversion	2	1	1	
Pyosalpinx	2	1		1
Hydrosalpinx	1	1		
Ectopic Gestation	1	1		
Prolapse	1		1	
Urethral Caruncle	1	1		
Pruritus	1	1		

A CASE OF PROSTATIC ABSCESS.*

JOHN LINDSAY, M.D., Philadelphia.

Abscess of the prostate gland is, according to Taylor, almost always a painful affection, and sometimes a dangerous and even deadly one. The cause of such an abscess is usually to be found in a preëxisting acute or chronic posterior urethritis, the passage of the inflammation from the urethral mucous membrane to the prostate being readily understood from their ultimate anatomic connection.

During the formation of pus in the prostate the following chain of symptoms are generally present: Chills, fever, a feeling of fulness in the rectum, marked obstruction to micturition through the swelling of the prostate, as well as very painful defecation from pressure on the swollen gland—in other words, the symptoms will, as a rule, stand out so prominently that a diagnosis should be promptly and easily made. It is certainly desirable that an early and correct diagnosis be made in all cases, chiefly that the surgeon, if he so desires, may take an active part in saying where the contained pus shall be evacuated, for while the abscess, in more than fifty per cent. of cases, ruptures spontaneously into the urethra, yet, its contents may also find their way into the rectum, perineum, ischio-rectal fossa, inguinal region, or perhaps into the abdominal cavity, and thus lead to most serious consequences.

The following case is reported, not on account of its severity nor for any marked complications presenting them-

* Read before the Philadelphia County Medical Society, September 9, 1896.

selves, but because the clinical picture was almost a negative one so far as being a guide to diagnosis.

A. H., aged twenty-nine; married; employed as waiter; consulted me at my office on August 14th, complaining of being chilly and having a feeling of soreness in his joints and muscles. This condition had existed for three or four days, together with considerable debility. Examination showed a temperature of 101° F., a coated tongue, but otherwise nothing of importance was elicited. The foregoing symptoms indicated influenza, if anything, and having prescribed on this basis and ordered a few days' rest, the patient was dismissed. On August 18th the man sent for me to see him at his house, and said that he felt no better, but rather that his symptoms were worse. At this time he mentioned, apparently as an afterthought, the fact that he believed he had piles. Inspection of the anus did not verify his statement, but examination per rectum revealed a general enlargement of the prostate, which was somewhat tender on pressure, and warm to the feel. The patient, whom I now questioned concerning past attacks of urethritis, denied ever having had gonorrhea in any form. In his recent history I could learn of no injury having been received, nor of any unusual exercise, as bicycling, being indulged in. He remarked that having recently removed, he had a long distance to walk to and from work. I now prescribed hot hip-baths, frequently repeated tonic doses of quinin, magnesium citrate and confinement to bed. The next evening he had a severe rigor and passed a very uncomfortable night. On the following forenoon he had difficulty in urinating, with more or less violent pain, when the abscess suddenly burst into the urethra, when, of course, he was relieved, his febrile symptoms disappearing, and the act of urination being again freely established. I saw the patient soon after the abscess had ruptured, and found bloody pus flowing from the urethra, the discharge being much augmented by pressure on the gland per rectum. The quantity of pus evacuated was about one and one-half ounces.

The cause of this abscess was not obvious to me, and if the patient had not, somewhat casually, spoken of piles, my rectal examination would not have been made and consequently the diagnosis might only have been determined with the appearance of pus at the meatus.

I prescribed fifteen grains of boric acid three times a day, and ordered the patient to report at my office. He has thus far failed to do so, but I have learned that he is at work again and feeling well, so I hope that his abscess-cavity will granulate, contract and heal without further trouble.

As already stated, the clinical picture in this case is of interest from its lack of what might be called the classic symptoms of the disease, and also from the absence of any obvious cause. The case illustrates further the value of exploration of the rectum.

The fact that many cases of similar kind have terminated fatally, as a result of the abscess not rupturing into the urethra, renders any case, obscure as this was, of interest.

Henry Ward Beecher on Seasickness.

Go on board with a full stomach of plain but nourishing food; do not have anything on your stomach when you embark.

Keep on deck. Do not go out of your state room, but lie quietly on your back.

Take champagne or claret, or brandy, or whisky, or gruel, or oatmeal porridge, or bits of salt codfish scorched upon living coals.

Then have an iceberg along your spine; a light belt should be worn below the waist; use homeopathic remedies freely; it makes little difference of what kind; blue pills and Congress water are as good as anything.

But the best of all things is to kick the doctor out of your state-room, lie still in your berth, and wait for land. This is a sure cure.

There are many alleviations of this condition—the smell of bilge-water, if on ship; the smell of grease, if on a steamer; the smell of dinner, if your state-room opens on the dining saloon; the rattle of knives and the jolly roar of merry men at their abhorrent meals. For variety, a friend visits you and narrates his experience and recommends new torments.

CANCER OF THE BREAST.*

S. S. CROCKETT, M.D., NASHVILLE, TENN.

Bilroth states that twenty-five of every twenty-six tumors of the breast are malignant. This malignancy usually assumes the epithelial type, and if left to pursue uninterruptedly its own clinical course it can boast of a mortality of 100 per cent. Cancer is usually not difficult of recognition, when it falls into the hands of the surgeon. The victims are usually elderly women who have borne children. The growth consists at first of one or more nodules, more or less hard, depending upon the rapidity of its development, more or less movable with that part of the breast to which it is attached, causing little pain or inconvenience except anxiety. By and by it is noticed to be larger and attaches itself to the skin and if the nipple is involved it is retracted. Later the adjacent lymphatic tissues are noticed enlarged, the growth is less movable or has attached itself firmly to the muscles and perchance to the chest wall, or else the mass breaks down, and the breast presents a ragged, sloughing, offensive ulcer.

Referring to some of its essential pathological characteristics, we know that the growth begins as one or more foci of atypical epithelial cells supported by a fibrous stroma. As these cells multiply they disregard that natural boundary set by nature to epithelial cells—the membrana propria—and push their way into tissue to which epithelial cells are strangers. The fibrous stroma is composed of the connective tissue normal to the parts, which has been pushed aside and condensed by the rapid development of the atypical epithelial cells, called cancer cells, in its meshes. These cancer cells have an inherent tendency to leave the original site of their development and fasten themselves to situations more or less remote when they multiply. They multiply by karyokinesis, just as normal cells. This local infection of adjacent or distant organs by the cancer cells is accomplished by either the ameboid movement of the cells themselves, according to Senn, or by the invasion and destruction of the vascular walls, and their entry into the vascular channels; and this invasion and distraction of adjacent or distant tissues by the abnormal proliferation of atypical cells, constitutes the essential factor in malignancy.

As soon as the cancer cells are attached to the normal histological elements, either far from or near to the original site, as they multiply, immediately establish new foci from which infection proceeds, as from the parent growth. The local infection usually proceeds with greatest rapidity in the direction of loose connective tissue. In its destructive invasion, however, it manifests no anatomical predilections, but involves all organs and tissues regardless of their anatomical structure. The tissues involved seem to make no resistance, but remain passive. The progressive enlargement of the tumor is due to new foci constantly developing in its periphery. Indeed cancer cells have been discerned by the microscope proliferating in lymphatic spaces from one and one-half to two inches from the well-defined limit of the tumor in apparently healthy tissue.

The involvement of the adjacent lymphatics is one of the most characteristic phenomena of carcinoma regardless of its situation, and this is the route along which the infecting cells usually travel towards systemic infection. The migratory young epithelial cells find their way into the lymphatic tracts near the periphery of the tumor. Langhan, from injected specimens of the mammary gland, found the ducts and acini of the gland surrounded by a delicate plexus of lymphatic vessels, but was unable to trace them even to the membrana propria. Other authorities, however, claim that a direct communication between the ducts acini and the lymphatics does exist. The very free lymphatic supply

* Read before Tennessee State Medical Society, May, 1896.

to the mammary gland is well known. The cancer cells having found their way into the lymphatic channels, either by migration or carcinomatous infiltration of the wall of the duct are carried along to the nearest lymphatic gland where they are temporarily arrested only to establish a new focus of development, which in turn sends other infecting cells along with the current to other neighboring glands.

This process is repeated along the lymphatic chain from the breast to the axilla, from the axilla to the sub-clavicular and supra-clavicular glands, until the infecting cells ultimately reach the general circulation through the thoracic duct. So soon as these cells have reached the blood current they at once find lodgement in the various organs, liver, kidney, spleen, lung, etc., there to again repeat their propensity for development, the victim dying from exhaustion, from mechanical interference with the vital functions, from repeated hemorrhages, due to erosion of vessels, or else from absorption of poisons elaborated at the seat of disease.

If every cell of a kind could be removed from the body no more cells of that kind would be produced. Normal and abnormal histological elements reproduce their own kind, and no other. If in the procedure by which we propose to remove the cancer one single solitary cancer cell be left behind, the disease will surely proceed to its own fatal termination, with only an interruption in its progress. But if we can succeed in removing every cancer cell, nothing is left behind to produce a recurrence. If the operation is undertaken with the idea of hunting out every possible focus and removing every communicating lymphatic tract and gland in reach, whether apparently infected or not, we can offer the unfortunate victim in a large per cent. of cases reasonable assurance of a permanent cure.

Surgeons, as a rule, are opposed to elaborate operations which are in themselves hazardous, and are content to remove only the noticeable enlargement of the breast, leaving too often the enlarged lymphatic glands, the enlargement of which they attribute to "sympathy." The result is practically quenching the fire in the cellar, but leaving it burning in the attic. The first question to be decided in a case of cancer of the breast is whether it is possible to remove all the local disease and the probable infected neighboring lymphatic areas thoroughly. If the question of permanent cure has to be put aside because the whole infected area cannot be thoroughly removed, we are driven to operate only for the promotion of temporary comfort. If the infection has involved distant organs, or has reached the supra-clavicular lymphatic glands, or where there is a large mass in the axilla involving the nerves, any operation is out of the question.

If we undertake the operation in what seems to be a favorable case, with the idea of permanent cure, we must bear in mind the real situation of the mammary gland. Recent developments show lobules of the gland situated in the fat almost up to the clavicle and downwards on the aponeurosis of the abdominal muscles, inward almost to the middle of the sternum, and backward to the axillary line. Before we can be sure that all the cancer cells are removed this entire breast, and its supporting fat, down to and including fascia covering the pectoral muscles from the clavicle above the sternum internally, and the border of the latissimus dorsi muscle behind must be removed, and then the axillary space must be relieved of all its contents except nerves and blood-vessels. It may become necessary in this procedure in thoroughly searching out the apex of the axillary space, that the pectoral muscles should be divided. It may be necessary, owing to the adhesion of the lymphatic glands to the blood-vessels, that either the vein or the artery, or both, should be ligated before all the glands can be removed. It may be necessary to remove infiltrated portions of the pectoral muscles from origin to their insertion. The detaching of the skin covering this wide area will greatly facilitate the closing of the wound when it has been necessary to remove much of the skin with the primary growth.

With the former incomplete operation many surgeons were so much dissatisfied from the almost constant recurrence of the disease that they advised against the operation entirely. However, advancement has been gradually going on as the

more thorough operation has become popular and the aseptic method introduced. Trendelenberg had only four cures follow 100 operations. Bilroth had 9 per cent. of cures. Czerny had 8.5 per cent. of cures. Kuster had 15 per cent. of cures. König had 20 per cent of cures. Bergman had 30 per cent. of cures. To-day Halstead and Cheyne come forward in strong advocacy of the more thorough operation, and offer as the result of their work 36 and 57 per cent. of cures respectively.

In estimating the efficiency of their work, these gentlemen have adopted the usual three years of immunity as representing a cure. While this rule is adopted in all statistics bearing on this disease, it is only an approximate estimate of the real results, for some cases do recur after a period of ten years immunity.

However gratifying this progress may appear, satisfactory results can only be obtained when patients and doctors alike awake to the understanding that there is a good chance of permanent cure only from a very early and very thorough operation. A suspicious lump in the breast of, especially, an elderly woman, is a thing not to be watched, but to be at once, and thoroughly removed, for 90 per cent. of the swellings in the breasts of elderly women are cancerous.

COMMUNICATIONS.

MENTAL DISORDERS.

CHARLES M. FRANKLIN, M.D., Lancaster, Pa.

Man's individuality is but the exponent of his environment. Consequently he cannot be studied from the standpoint of his personality alone but from that in conjunction with the society with which he is surrounded, the position he has inherited or has attained in those surroundings, and the conditions that prevail as to his location, occupation and education. If there were a standard by which all men of all times and all nations could be judged alike, the subject of sanity would become a matter of mere comparison. It seems impossible, however, to escape the conclusion that the progressive peoples of the nations of to-day have everywhere the same distinctive features. Energetic, vigorous, virile life amongst them is maintained at the highest pitch of which nature is capable, the greatest freedom and fairest rivalry for the individual, but also the sternest conflict, the greatest friction and severest stress exist.

It may appear strange but it is nevertheless true, that if each of us were allowed by the conditions of life to follow his own inclinations, the average of one generation would have no tendency to rise beyond the average of the preceding one, but distinctly the reverse. Progress is always the result of selection and rejection. No two individuals of one generation are alike in all respects. Some are slightly above the average and others are below it, and it is only when conditions prevail which are favorable to a preponderating reproduction of the former that advance in any direction becomes possible. Mankind has ever been looking forward to results better than have yet been known, and putting forth efforts to attain them. Each step gained opens up in its turn new vistas, and encourages fresh efforts. It is a most patent fact that some individuals have over-stepped the bounds of prudence and have thereby injured their health, by this personal effort to raise the average of human excellence, and they become thereby a part of the subject of this paper.

While many individuals have failed

or over-reached the mark, yet the general result has been an improvement in the conditions which exist at the close of the nineteenth century. The characteristic feature of our times is the humanitarian tendency, and the whole trend of our civilization has been and continues to be, to develop this disposition. The advance in the care of the insane has been *para passu* with the socialistic evolution of modern society. It must be remembered that we have to compare the present condition of the mass of the population, not with their state under some ideal organization of society, but with their actual condition in the past.

Reports from all the hospitals for the insane in the land show a rapid progression of every line of work. 1. The advance in hospital construction, assuring the greatest amount of comfort and advantage in custodial care with the happiest means of classification; 2. The increase in the medical service, many institutions having latterly added departments of pathology, gynecology, and ophthalmology; 3. The organization of schools of nursing, with a vast improvement in the character and intelligence of the attendants upon the insane; 4. The erection in this state of a hospital for the chronic insane, and we hope soon to be able to add a separate institution for the criminal insane. All these conditions have been a gradual growth from the crude methods which were obtained at the beginning of the century, and are in harmony with and a sequence of the general social evolution.

Great strides have been made in the study of pathology, and alienistic pathologists stand in the foremost ranks of scientific investigators. A great deal of this work consists in the determination of exact localization, resulting in the precision of diagnosis in tumors, abscesses, embolism, thrombus, aneurism, epilepsy in all its different forms, and many other conditions opening up thereby a most prolific field for surgery, which in the past few years has done so much for the alleviation and cure of various mental disturbances.

Auto-intoxication, the psychoses of acute infectious diseases, the toxicity of blood serum, the relation of kidney diseases to insanity; the influence of pelvic disorders, the diseases of the ear in the causation of insanity; have all received their share of thorough investigation at the hands of noted alienists and pathologists.

French and German experimenters have corroborated the fact that the centre of intelligence lies in the prefrontal lobes. The pituitary body also has attracted much attention and the conclusions arrived at seem to tend to the impression that it is instrumental in influencing the assimilation of oxygen. Ferrier draws the conclusion from his own and others experiments, that the old theory that in the cerebellum lies the seat of sexual impulse or desire, is false, and it has no share in psychical manifestations, its removal causing no discoverable impairment of any of the special senses.

A long list of investigators support the theory of the close relationship in motor and sensory areas in the cortex, proving that the areas of Rolandus are centers of sensation as well as motion. These are only a few of the many new and intensely interesting and instructive investigations worked out in this prolific field. No section of pathology has received such thorough and untiring work as that of the brain. Insanity has long since passed from being a legal question to that of a medical one. No ailment that the flesh is heir to appeals more earnestly to our professional skill, especially when we are brought face to face with the appalling fact, that, notwithstanding the wise efforts that have been called forth both in care and in treatment, it is increasing vastly. Dr. Pliny Earle, maintains that insanity is as a whole really becoming more and more an incurable disease, due he says, "to the fact that as civilization has advanced and the habits of the race have been consequently modified, disease has left its stronghold in the fleshy and muscular tissues and at length seated itself in the nervous system, it follows as a necessary consequence, that, by the continuation of the cause of this change, the diseases of the nerves and brain must become more and more permanent." No one will challenge the fact that the great bulk of insanity is due to ill health in one form or another, yet later statistics give the column of

cures with telling figures proving most gratifying results from modern methods of treatment, yet even these are but meagre in proportion to the great increase of the disease.

Taking the figures of the census of 1890 as a basis of calculation, it is estimated that the number of insane, idiotic and feeble minded in the United States amounts to 250,000 or one-half of 1 per cent. of the whole population. This represents an increase during the past decade of about 74 per cent., while the population increased during the same period only 24½ per cent.

Such rich advances and noble efforts have been made in the general care and therapeutic treatment of the insane, but we look forward to the institution of measures that will prove of benefit in the prevention or lessening of this rapid increase.

It is established beyond denial that many of the causes of insanity could be obviated or at least so influenced as to be deprived in a measure of their pernicious effects. Under this head might be included, inebriety, morphinism and kindred drug excesses, immigration, intermarriages of consanguinity, ill health due to overwork and mental strain, and bad hygienic conditions.

Forel states that alcohol paralyzes the highest, most complicated and finest conceptions of conscience and reason. It is stated also that drunkenness is a fertile cause of impure and unhealthy issue, the condition at the moment of procreation sufficing to induce physical and mental inferiority in the progeny. Legrain of Paris has traced the history of 819 descendants of 215 alcoholic families. There were 121 premature deaths, generally from convulsions; thirty-eight cases of physical debility; fifty-five of tuberculosis and 145 of mental derangement.

The present laws governing insane hospitals will not permit the incarceration and detention of inebriates for any length of time, sufficient to prove of any benefit. Many of them become volunteers, so-called, in some of our private asylums, but the method so far has not been highly successful, for just at the time when the patient becomes extremely thirsty he demands his discharge. This he has a legal right to do, and is frequently so advised by the superintendent, simply because he is a discouraging subject for treatment under the present existing laws, and because he is almost sure to become a moral disorganizer in the routine of the institution. There is a crying necessity for some legislation for the protection of this unfortunate class against themselves. Douglas Anderson holds that drunkenness is a disease for which no should be punished, arising as it does from an unhealthy state of the body or brain. Crothers says the alcoholic inebriate possessed with the impulse to use spirits, manifests simply a symptom of some brain condition which seeks relief. When drinking he neglects hygienic care and becomes oblivious of poisoned air, bad food, etc. The same may be said of drug habitués. As to the therapeutic treatment of inebriates, the consensus of opinion is in favor of the hypodermatic use of nitrate of strychnia. In reference to immigration, it is only necessary to state that within the present month, in one day alone, there were brought into New York on various vessels no less than 4000 steerage passengers, many of whom it is suspected and no doubt it is true belong to the defective, delinquent and degenerate class, who will not only directly enlarge the number of insane, but whose progeny will increase the number to an extent that cannot be estimated.

Bearing upon this phase of the subject, that is to say prophylaxis, is the agitation on the comparatively new science of criminology as treated by such able men as Prof. Lombroso, Max Nordau, Arthur McDonald, and, in our own State, Henry M. Boies.

Largely collected and correlated statistics show that the great bulk of criminals belong to the defective or degenerate class. Boies is responsible for the statement that "there is never found in the criminal or pauper class, except by accident, a normal, well-developed, healthy adult. We believe that it is established beyond controversy that criminals and paupers both are degenerate. The mind, the intellectual faculties and the soul, the moral faculties—which are the motive powers of character, which constitute the man—have their home in his body,

to which they are conformed which they represent, and by which they are limited and controlled in their operations as well as in their conditions. A normal character is not to be expected in an abnormal physique, nor a sound and healthy character in a diseased constitution."

Is it not a startling disclosure that, notwithstanding all the progress in knowledge and in the arts and in everything that seems adapted for civilizing mankind and developing and sustaining a higher standard of manhood, there is an increase of crime almost twice faster than the rate of increase of the population? The number of inmates in penal institutions of Pennsylvania in the year 1890 was 7,340, an increase of 34.7 per cent. over that of the census of 1880, while the population of the State only increased 22.5 per cent. in the same period. It is obvious what an influence this condition of things must exert upon insanity. Pertinent to the point is the notorious case of H. H. Holmes. Dr. McDonald made a scientific investigation and examination of this arch assassin while in prison awaiting his execution and found the tests by instruments of precision, etc., declared him at all points a degenerate. It is to be intensely regretted that the law is so deficient in its efforts in behalf of science, as not to have been able to hand over his brain for the pathologic investigation of criminologists and alienists.

In New York State it has been proposed to organize an institution or farm colony for the detention, reformation and instruction of persons convicted of vagrancy, habitual drunkenness and disorderly conduct, without a time sentence. Once committed, the convict is to be held at the discretion of the management. This is one step in the right direction. Another would be the curtailing of the careless, culpable and criminal exercise of pardons by the governors of the various States.

With regard to the therapeutics of insanity, the latest and newest experiments have been made with the hypodermatic injections of thyroid extract. Some startling effects have been produced in chronic delusional insanity more especially, but it is too soon to tabulate any positive results. Duboisine sulphate has been used in the same way as a sedative with good results; it is considered superior to hyoscine and hyoscyamine. Dr. E. N. Brush has written an exhaustive article on insomnia, in which, if he does not decry the use of hypnotics such as sulphonal, trional, chloral, paraldehyde, hyoscine, the bromides, etc., he at least finds that they seriously disturb digestive and renal functions and produce themselves symptoms of toxic delirium. He says "the modern treatment of insanity and of nerve disorders in general may be summed up in tonics, food, rest and attention to personal hygiene, under which may be included attention to all the physiological functions." One of the undoubted advances in therapeutics is the antitoxin treatment of tetanus, as is also the tenotomy of the eye muscle for epilepsy.

Nomenclature of Diseases.

The second decennial revision of the "Nomenclature of Diseases," embodying the most recent views on the nomenclature and classification of diseases, and prepared by a committee of the Royal College of Physicians of London, has been issued. Tetanus, actinomycosis, foot and mouth disease, pellagra, Hodgkin's disease, and diabetes insipidus appear in the list of the so-called general diseases for the first time. Tetanus is placed between septicemia and tuberculosis, among diseases due to specific micro-organisms. Rheumatic fever, despite the evidence in favor of its being a specific febrile disease, appears between pellagra and rheumatism and gout. Membranous croup is made synonymous with diphtheria. Puerperal fever has been expunged from the official nomenclature, and pyemia, septicemia, or sapremia in puerperal women are to be described as puerperal pyemia, septicemia and sapremia, respectively. In the appendix, containing a list of vegetable parasites, the tubercle and anthrax bacillus are given as the cause of these diseases, but the diphtheria bacillus is described as occurring in the lesions of diphtheria, and the spirillum of Asiatic cholera as occurring in the intestinal epithelium and contents in cholera.—*Med. News.*

ADDRESS.*

WILLIAM R. LAZENBY.†

In discussing the relation that horticulture bears to health, not physical health alone, but intellectual and spiritual health, have been considered. In like manner, the products of horticulture, as well as horticulture as a vocation or recreation, are taken into account. First, let us consider the effects of the use of our common garden and orchard products, as a part of an everyday diet.

There is a great deal of talk about health and diet that is equally foolish and hurtful;—foolish because it subserves no good end, and hurtful because it tends to fortify the pernicious idea that our bodies are in such wretched condition as to need constant tinkering, and that some sort of self-medication is a positive duty.

Like malaria, this affection is everywhere. How shall it be treated? In the place of this wide-spread delusion there should be an inbuilt conviction that there are certain articles known as foods, in the choice of which and in the quantity used each one has daily opportunity to exercise the virtues of common sense and moderation. But foods are not medicines.

A medicine is something which is taken into the body to produce a certain specific and unusual effect, the object being to counteract some injurious tendency or abnormal state. If taken when not needed, its effect is likely to be directly injurious. In order to maintain strength and vigor, and repair waste, the normally healthy body craves what is wholesome, not what is medicinal. When a thing has real medicinal value, it is almost certain to be unwholesome as a general article of diet. There is an old tradition,—even now quite generally believed, although gradually fading away,—that anything that affords us simple physical pleasure is dangerous, if not absolutely sinful.

So when one eats freely of fruits, he does not feel justified in simply saying he does so because he finds them agreeable; he likes and craves them, but is constrained to look wise and solemnly observe that "fruits are very healthy." Some even go so far as the German prince, and have for each bodily ailment a different variety of fruit. The prince said, "Whenever I meet with any misfortune or affliction, and am disposed to give way to my grief, I order a young goose nicely roasted, and eat as much thereof as I can: I always find that I rise from the table far less unhappy." Let us banish the idea of making a drug-store of our fruit-gardens and orchards, and cease looking upon the family fruit-basket as a sort of homeopathic pill-box!

"Blessed are they that hunger and thirst," can be said as truly of our bodily wants as of our spiritual necessities: not blessed because they shall be medicated, but because "they shall be filled,"—filled with what tastes good, with what gives genuine and lasting pleasure.

In satisfying our hunger for fruit,—fruit that is well matured, juicy, and fine flavored,—we get perhaps the highest form of palate gratification with the least possible digestive effort.

Our ordinary fruits contain the following substances in greater or less proportions:—

1. A large percentage of water.
2. Sugar, in the form of grape and fruit sugar.
3. Free organic acids, varying slightly according to the kind of fruit. For example, the predominating acid is malic in the apple, tartaric in the grape, citric in the lemon.
4. Protein or albuminoids, substances containing nitrogen, which resemble the white of eggs, and are its equivalent in food value.
5. Pectose, the substance which gives firmness to fruit, and which upon boiling yields various fruit jellies.

* Read at the Buffalo Meeting, August, 1896.

† Vice-President Horticultural Section of the American Association for the Advancement of Science.

6. Cellulose or vegetable fibre, the material that forms the cell walls, and which is found in all parts of plants.

7. A very small percentage of ash or mineral salts.

The substances named above are, with the exception of cellulose, essential constituents of a perfect diet. The percentages of the different nutrients are so small, however, that most of our fruit has little actual food value. For example, the nutrients contained in the strawberry, according to analyses made at the Ohio State University, are as follows:—

Carbohydrates	8.0 per cent.
Protein	.3 " "
Fat	.0 " "

It has been estimated that the minimum daily ration of nutrients for a man of average weight, performing an ordinary day's work, is:—

Carbohydrates	500 grams,	or 17.6 ounces.
Protein	118 "	" 4.2 "
Fat	36 "	" 2.0 "

A simple calculation will show that a person would have to consume about 200 ounces, or thirteen pounds, of strawberries daily in order to obtain the proper amount of carbohydrates from this source.

In order to secure the necessary amount of protein from the same source, a daily consumption of 1400 ounces, or eighty-eight pounds, of strawberries would be required.

This would be a task that even the most ardent admirer of this fruit could scarcely be prevailed upon to attempt. Take another illustration from the vegetable, rather than the fruit-garden.

The nutrients contained in the tomato are as follows:—

Carbohydrates	2.5 per cent.
Protein	.8 " "
Fat	.4 " "

Applying the same calculation as before will show that one would have to eat 500 ounces, or 31.2 pounds, of tomatoes each day for the requisite fat; he would have to eat 525 ounces, or 32.8 pounds, for the necessary protein, and for the carbohydrates it would require 704.4 ounces, or about forty-four pounds. In other words, if one should eat forty-four pounds of tomatoes every day, he would consume slightly more fat and protein than were absolutely necessary for a day's supply, and just about the right amount of carbohydrates.

This demonstrates that, however valuable strawberries and tomatoes may be as a part of an every-day diet, they cannot be considered as foods. Their actual nutrient value is exceedingly low. In order to support life and maintain strength, strawberries and tomatoes must be eaten in connection with other substances which have more concentrated nutrients. Wherein does their dietetic value consist? Let us briefly consider. The qualities which render fruit and many of the more delicate garden vegetables wholesome, and cause us to have a natural appetite for and hence to enjoy them, are their acid juiciness and flavor. The juice is mainly water, but it comes to us in a grateful and refreshing form. The flavor is due in part to the organic acids already mentioned, but mainly to certain volatile oils or aromatic ethers. It is to these latter that those delicate characteristic flavors of various varieties of fruit are chiefly due.

Chemistry and physiology have taught us that, when these "fruity acids," oils, and ethers are taken into the body, they undergo oxidation, which process tends to lower the temperature of the blood, or at least to modify our temperature sensations, and thus correct, or allay, any slight feverishness that may exist. They also tend to keep the organs of secretion, the liver, kidneys, etc., in a healthy condition. We are justified, therefore, in saying that fruits are "cooling, aperient, and grateful." In our climate, subject as we are to rapid changes and extremes of temperature, passing abruptly, as we often do, from an arctic winter to a tropical summer, the physical system is naturally more or less debilitated.

In this condition we are predisposed to malarial troubles, particularly if we live where the drainage is poor. Fruits and acid vegetables are found to be good correctives for this debilitated condition of the system. The free acids of fruits, especially citric and malic acids, are highly antiseptic bodies. They tend to prevent disease germs from finding a lodgement and development in the body.

The full beneficial effects of these acids are only to be found in mature fruits. Green, unripe fruits, although they have an abundant supply of acids, are usually injurious, on account of their indigestibility. This arises, mainly, from the coarse and hard condition of the cellulose. When fruits are perfectly developed and properly matured the cellulose is soft and fine. We know that unripe fruit is not wholesome. It digests slowly, often ferments in the stomach, and is the cause of painful disorders. It is unwise to take into our stomachs that which will ferment and decompose; it is certainly no less unwise to eat overripe or wilted fruit, in which these destructive changes have already begun. The question is often asked whether such or such a fruit is healthy, even when the question has no special reference to the condition of the fruit itself. All fruits that are eaten ought to be healthy. That is, they should be well matured, sound, and free from disease. As a rule, such "healthy fruits" are for most of us wholesome, although they are neither food nor medicine.

The best results possible from the dietetic use of fruits and vegetables come from eating those that are fresh, healthy, and properly matured, and which have been produced by our own skill and industry.

CURRENT LITERATURE CONDENSED.

Reflex Facial Neuralgia.[1]

Several cases of apparently idiopathic neuralgia came my way as a last resort, after long-continued treatment by the physician or neurologist. I did nothing at all mysterious, simply removed the exciting causes, all done in a very short time and followed in nearly every instance by absolute and permanent relief. Physicians treat symptoms as a rule, but (as a learned judge of Missouri terms us) "tooth carpenters" spend their time in hunting for and removing causes of pain and disease.

In a genuine case of reflex neuralgia one might prescribe quinine, iron and arsenic in their various forms forever to no avail. Medical books say in regard to the etiology of neuralgia that malaria, gout and anemia are responsible, and little more than mention reflex action and decayed teeth. I know there are some neuralgias (called idiopathic) but many especially of the second and third branches of the trigeminus, are reflected pain from the teeth, some from growth and diseased bone, growth in the nasal cavity and middle ear, and eye strain. However, the teeth are accountable for over one-half of all severe reflex neuralgia, in my opinion.

Abnormalities in the condition, number and eruption of the teeth do cause pain elsewhere, and chiefly along the branches of the fifth pair of cranial nerves and their ganglionic connections.

We see fewer cases of neuralgia than we should, because the medical practitioner does not know that the most acute intermitting facial neuralgia is often caused by the formation of a pulp stone or nodule inside the pulp chamber of a tooth; also that neuralgia is the subjective symptom of a growth of pericementosis or exostosis. They know about growths of bone and swellings causing pressure and exciting inflammation along the whole nerve sheath, but what do they know about these delicate and difficult subjects for diagnosis in relation to the teeth?

I speak from observation, recalling several cases, one treated by a celebrated neurologist for over a year, and which by chance came to my hands. There was not a cavity of which either the patient or the physician knew; in fact, the enamel walls had not broken down. I did about fifty dollars' worth of work in nothing but amalgam fillings, so you can imagine how many billions of nerve endings were irritated. The case was cured permanently.

Another was operated upon by an equally renowned surgeon, and the superior dental nerve removed entirely;

1 T. H. Morrison, M.D., D.D.S., St. Louis, Mo., in *Dental Review.*

neuralgia still prevailed in as bad, if not more terrible form. After many months one lone upper molar, which had roots each twice the normal size was extracted in our office. This was an extensive and aggravated case of pericementosis. Patient has not been so free from facial neuralgia for years.

To sum up, any irritation of the millions of nerve fibrillæ in the teeth and exposed necks of teeth, is amply sufficient to start an inflammation, (if it be inflammation as I think it is) extending along the course of the nerves to the larger trunks, where the blood-vessels of the nerve sheaths are proportionately large, and may also extend through the ganglia to the sympathetic system.

The Use of Peroxide of Hydrogen in Diseases of the Nose, Throat, and Ear.[2]

Peroxide of hydrogen is one of the most useful agents which we have in the treatment of disease of the nose, throat and ear. Its germicidal and antiseptic properties, and its capacity for destroying pus and decaying organic matter without injurious effect on healthy tissues, render it almost indispensable in many cases.

Peroxide of hydrogen derives its name from the fact that it is the highest oxide of hydrogen known to chemistry. It was first prepared by Thenard, about seventy years ago, and was known as "oxygenated water," a name still retained in France. A given volume of it, when decomposed, yields 475 times its own volume of free oxygen. In its undiluted state oxygen is a strong cauterant of animal tissues and is therefore usually prepared as a 2 or 3 per cent solution, the former yielding, when decomposed, ten and the second fifteen times the volume of the liquid in gaseous form.

Peroxide of hydrogen is not toxic; in fact, it is used for internal medication, and the amount which may be taken without injurious effect is well illustrated by a case recently reported, where the patient, from a misunderstanding of the directions, took six or eight four-ounce bottles of peroxide of hydrogen during one night, and was not only not injured by this excessive amount, but actually believed that he had been benefited.

In diseases of the nose, peroxide of hydrogen is an important therapeutic agent. In ozena a wash of a 25 per cent solution is useful; or, after washing the nostrils with an alkaline of the normal physiological salt solution, the hydrogen peroxide, pure or mixed with an equal quantity of glycerine, may be applied locally by means of an atomizer or applicator with cotton, to remove or destroy any scabs or secretion which may be left. In this way the nostrils can be kept clean, and the offensive odor, which is one of the most unpleasant features of this disease, may be prevented. In purulent rhinitis a 5 per cent. solution, to which an alkali has been added, is useful. It is also said to be serviceable in controlling nasal and pharyngeal hemorrhage.

In membranous rhinitis, whether due to the Klebs-Löffler bacillus or to micrococci, the spraying of the nostrils with a 20 to 50 per cent. solution is indicated, and has given me excellent results. My experience in diphtheritic rhinitis with this agent has been so satisfactory that I have not deemed it necessary to use the antitoxin in these cases, as this does not seem to prevent the post-diphtheritic paralysis, which would be the only reason for my using it in diphtheritic rhinitis.

In specific necrosis in the nostrils, peroxide of hydrogen is an important agent, not only for its disinfecting properties, but also for controlling the horrible odor that is present in these cases. In diseases of the accessory sinuses of the nose, peroxide of hydrogen is so beneficial that I use it in all cases, whether of a maxillary, frontal, ethmoidal, or sphenoidal sinus. In my opinion it cleans and disinfects the infractuosities of these cavities more effectively than any agent that we have.

In diseases of the throat, peroxide of hydrogen is used in follicular and other forms of tonsillitis, and in specific affections, and is a sheet anchor in diphtheritic processes in this region. Long before the introduction of antitoxin, I have had excellent results from hydrogen peroxide in diphtheria, and even since the use of this serum I never fail to use the peroxide as a valuable ad-

2 W. Scheppegrell, A.M., M.D., New Orleans, La., in *Dental Review.*

junct, and I believe it to have had an important bearing on the results obtained. It attacks the membrane, disinfects the parts, and has no injurious effect when swallowed, which is more than can be said of many other antiseptics used for this purpose.

In a recent case of laryngeal diphtheria, to which I was called in consultation, the stridor and dyspnea were so marked that I was compelled at once to introduce an intubation tube. The tube, however, was repeatedly coughed out, and I then made use of a procedure which I had found beneficial in former cases—the injection of a 75 per cent. alkaline solution of peroxide of hydrogen directly into the larynx, by means of a laryngeal syringe. The relief given by this injection was so great that I was not compelled to intubate again, but simply to make these injections every four hours. The patient also received these injections of diphtheria antitoxin serum, which I made at intervals of twenty-four hours, and the child made a good recovery. Recently a German author called attention to the irritating effects of peroxide of hydrogen on the mucous membrane. This effect I have found in none of my cases, although this may be due to the fact that in employing this agent I make use of a small addition of bicarbonate of soda, and that I adjust the strength of the solution to the requirements of the case.

Diseases of the ear offer a good field for the use of peroxide of hydrogen. As a non-irritating antiseptic wash it is invaluable, as in the various forms of suppuration, especially when they are accompanied with a disagreeable odor. In diffuse or circumscribed inflammation of the external canal, peroxide of hydrogen is useful after an incision has been made; and in suppurative otitis media, especially in neglected cases, a 5 to 15 per cent. solution is of great assistance. In cases complicated by inflammation of the mastoid cells, especially in the suppurative form, the indication for peroxide of hydrogen is clear, although this does not prevent the use of iodoform, aristol, and other antiseptic agents.

In acute cases of purulent otitis media, a 5 per cent. alkaline solution should be used, as strong solutions are not necessary and may be injurious.

Cocain and Cocainism.[3]

Untoward symptoms arise from subcutaneous and submucous injection, and from the use of large quantities upon the mucous membranes, particularly the urethra. Réclus, after a careful study, has concluded that on an average three grains of cocain is the safe limit for anesthetic purposes. Abadie had an experience in which, after the injections of two-thirds of a grain of cocain into an eyelid before an operation upon ectropion, the patient, aged seventy-one years, was seized with coma which lasted for five hours, death ultimately occurring.

Hugenschmidt, a celebrated dentist of Paris, had a case of syncope lasting half an hour as the result of injecting ten drops of distilled water into the gum, illustrating the fact that injections under mucous membranes are capable of producing symptoms independently of the presence of cocain. We believe this patient had already suffered from an attack of acute cocain poisoning as the result of an injection. No case of death, however, has resulted after the absorption of a small amount of cocain. There is one case, however, of a death from the injection into the urethra of a solution containing eight grains of this drug. The symptoms of acute poisoning under these circumstances are variable; sometimes they are simply those of a brief and fleeting vertigo; in other instances there is great excitation of the nervous system and a tingling in the extremities, with flushing of the skin followed by pallor; in other instances there are gesticulations and the patient passes into a condition of active talkative delirium. The latter symptoms are seen most frequently in women. In other instances the symptoms are those of marked depression. The vertigo produces nausea or sensations similar to those of sea sickness. There is marked feebleness and the patients are in a condition of semi stupor. There may also be palpitation of the heart and some vomiting. There is marked pallor of the face, dilatation of the pupils, coldness of the extremities, and profuse sweating. Should convulsive symptoms come on, the intoxication is of course exceedingly profound and

3 Sallard in *Revue Thérapeutique Medico-Chirurgicale.*

the prognosis grave. Convulsions are at first tonic, then clonic in character, sometimes resembling those of ordinary eclampsia. There is marked dyspnea, probably due to tetanic contractions of the respiratory muscles, and cyanosis is present from similar reasons, the cause of death being failure of respiration. The duration of these untoward symptoms produced by poisoning by cocain is usually from one to two hours, although of course they may last for a longer period of time. Marked insomnia is very apt to follow these symptoms.

Gauthier has stated that the administration of nitro-glycerin will greatly diminish any danger connected with the use of cocain, and Glück has claimed that by the use of phenate of cocain these symptoms can also be avoided. Goesel has also proclaimed the advantages of tropacocain as less likely to produce depression of the heart and other untoward symptoms.

Magitot, after stating that only very minute quantities should be used for producing local anesthesia under the skin or mucous membrane, adds that cocain injections should never be used in neuropathic patients or in those suffering from cardiac disease or chronic affections of the respiratory passages. Great care should also be taken that it is not introduced into the veins. The patient who receives cocain instillations should also always be placed in the horizontal position, save in those instances where in operations upon the mouth or head a semi-reclining or erect position is indispensable. Again, the greatest care should be used that the hydrochlorate of cocain is absolutely pure and not mixed with other alkaloids which may possess a toxic influence. It is also well to use the instillations gradually rather than to inject them all at once. Magitot believes that cocain possesses over chloroform and ether incontestable advantages.

Should symptoms of acute intoxication by cocain develop in any case, the treatment is to place the patient flat on his back and use slappings of the face and chest with hot and cold towels, ammonia by inhalation, and if necessary nitrite of amyl, and hypodermatic injections of ether and caffein. Chouppe has recommended that from one-third to one-half a grain of morphin be given hypodermatically.

The habit of chronic intoxication by cocain, or what has been called cocainomania is constantly increasing in France. The symptoms consist of loss of appetite, cardiac palpitation, headache and vertigo, finally followed by hallucinations or delusions. The following treatment is to be instituted:

In the first place, abstinence from cocain is to be insisted upon under proper control of attendants or in a hospital. The method of decreasing the cocain need not be instantaneous, but it should be tapered off rapidly. Hydrotherapeutic measures designed to increase nutrition should be resorted to, and iron, quinine and arsenic, with heart tonics, such as caffein and spartein, should be employed. Chloral, trional or sulphonal may be employed to overcome insomnia, and the whole effort of the physician should be directed by means of appropriate exercise and a regular method of life to improving the patient's general nutrition.

What Constitutes an Accident?

The question of what constitutes an accident was considered recently in the following case, cited by the *Medical News:* A physician of Essex County, New York, while driving between Hayne and Ticonderoga, was overcome by exhaustion arising from an injury sustained a year previous. He stopped his horse and proceeded to give himself a hypodermic of morphin. His horse started suddenly and the needle was driven further than he intended. Cellulitus ensued and he was disabled for twenty-two weeks. He brought suit against the Interstate Casualty Company, which had insured him "against bodily injuries sustained through external, violent and accidental means." The presiding judge of the circuit court of Essex County dismissed the complaint. The Albany Court of Appeals, by a majority of three to two, decided that the jury should have been allowed to determine whether the injury was accidental or not. The court held that the injury could not be called accidental, if it was caused by the morphin or by the uncleanliness of the needle.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, SEPTEMBER 26, 1896.

EDITORIALS.

HEALTH AND DIET.

We take pleasure in calling the attention of our readers to that part of the address of Prof. Lazenby before the Horticultural Section of the American Association for the Advancement of Science, which deals with the relation of fruits to health. Prof. Lazenby, though not a physician, has grasped the conception of the impossibility of arbitrarily connecting wholesome or unwholesome qualities with certain things or actions or environments. This is an important conception and one which most of the laity, as well as not a few of our own profession, lack. Knowing the cause of tuberculosis, knowing how important are the elements of exercise, open-air life, and freedom from mental and physical strain, knowing also the wonderful improvement noted in climates of the most varied descriptions, our profession is still disputing as to the one climate which is "good for" consumptives. About three-quarters of all nutriment taken, is changed into glucose before it finally becomes useful to the economy, yet how few physicians there are who regard the ingestion of sugar or candy as anything more than a mild dissipation. In regard to all articles of diet, there exists the same tendency toward a classification into

good and bad, into "healthy" and "unhealthy"—for the false conception seems wedded to a misuse of these words. Prof. Lazenby has also clearly conceived the necessity of variety in diet. Too much of our present system of dietetics overlooks this important element. We have a food analyzed, find that it corresponds quite well to the demands of the body for a certain percentage of proteids, another percentage of fats and another of carbohydrates and we administer it with the same near-sighted wisdom that prompts a man to bet that he can eat thirty quails in thirty consecutive days. We give milk continuously to a man burning with typhoid, ignoring the fact that his weak stomach must meet approximately the same demands for nutrition as in health and that it needs something like the same stimulation by variety. Obviously we cannot allow a full bill of fare but we can at least change from milk to broths of different flavors and to egg-albumin or mixtures of egg and milk. We are liable to forget that the active man cannot only tolerate but derive benefit from a variety of substances which no amount of physiological chemistry can justify; that scurvy, constipation, lithemia,, urinary lithiasis, intestinal toxemia from stagnation, are conditions always imminent in a person restricted to the physiological tripod of proteid, fat and carbohydrate. Thus, while agreeing with Prof. Lazenby in the spirit of his statement that "healthy fruits" * * * "are neither food nor medicine," we wish to emphasize the fact that, in a certain sense, they yet fulfill both these functions.

THE USE OF THE WORD DOCTOR.

We are in receipt of a letter from Dr. J. F. Baldwin, of Columbus, who says:

In your editorial on "Doctor," in your issue of August 15th, you say that doctor is never a verb. Do you make that statement in a Pickwickian sense, or do you propose to declare all our standard lexicographers are wrong? All the dictionaries at my command, including the "Century," the "Standard," and "Webster," give the word as sometimes a verb and with the ordinary meaning.

Dr. Baldwin is literally correct, though he fails to note that the three dictionaries cited all give the verb "doctor" as a colloquialism. Probably if we had said "Pie is never eaten with a knife," some critic would have sent in affidavits to prove the incorrectness of our statement. Seriously, however, it must be borne in mind that the function of a dictionary is to record not only correct but wrong language. There are a number of words so vile that they are almost utterly tabooed, so far as written language is concerned, and which are never heard in decent society, yet they are properly included in every unabridged dictionary and it is remarkable how carefully they have been preserved by the vulgar tongues that have used them, so they are little changed from the Gallic, German or Latin and Greek words which they represent.

Moreover, it must be granted that the status of a word is little more than a fashion. *Standpoint* was considered a Germanic colloquialism, a generation ago and, a generation hence, we may imitate the same language and say that a patient "*fevers*." Many slang expressions are gradually making their way into accepted language, because they fill actual wants. Thus, no one now feels called upon to apologize for mentioning a *dude* by that title and either *cheek* or

gall must come into general use, since we have no other means of indicating this very common psychic disturbance, except *coolness* which is ambiguous and utterly inefficient. In regard to the word *doctor*, there is something more to say than that it is not yet received into good verbal society, for the noun is itself formed from a verb and we might as well say "*to actor*" or "*to president*," as "*to doctor*." It must also be considered that the word is only, by custom, used as a synonym for physician and that it means *teacher* or rather corresponds to our modern conception of *professor*. Really, in using the word *doctor* in the usual sense, we are guilty of the same vulgarism as in saying a *post-mortem*—omitting the word *examination*—and in using the word *doctor* as a verb, we are as inelegant as in speaking of "*posting*" a cadaver.

CORRESPONDENCE.

UNPRECEDENTED RESULTS OF AN INTRA-CAPSULAR FRACTURE OF THE HUMERUS.

EDITOR OF THE MEDICAL AND SURGICAL REPORTER:—It seems almost arrogant for a physician to report the history of his individual ills and ailments, but the almost unprecedented favorable results of my case have prompted me to do so.

Imprimis, I am fifty-three years of age, which I consider important to remember while reading this report.

On January 19th last, while returning home from visiting a patient, I was accidentally thrown from my dog-cart against a large boulder by the side of the road and my right shoulder was seriously bruised and fractured. The cause of my accident was the terribly rough and icy condition of the roads, and it being slightly down hill, my horse was inclined to trot down in spite of my pulling on the bit. The left wheel of the cart struck a large stone that had rolled into the road and frozen there. The counter-coup threw me over the right wheel of the cart against the boulder by the side of the road.

I was somewhat stunned, but retained presence of mind sufficiently to speak to the horse and retain my hold and command of him. On attempting to get back into the cart, I discovered that my right arm was almost useless. I concluded at once that there was a subglenoid dislocation of the humerus, although I thought that there was more mobility of the joint than there should be under those circumstances. I succeeded in driving home alone, but when I got there I had to procure assistance to unharness the horse.

That night we used moist, hot applications to the shoulder-joint in order to subdue the pain and prevent further swelling until I could get a surgeon to attend to it. The next morning Dr. S. Birdsall (Erie Railway Surgeon) came in answer to my telegram. After a careful and scientific examination of the injury, he unhesitatingly pronounced it an intra-capsular fracture of the humerus and what was a confirmation of his diagnosis was the fact that I could distinctly detect crepitus myself while he was making rotation and extension. The doctor, after carefully adjusting the broken ends of the bone, confined them there by means of an Ahl felt shoulder splint and several turns of a roller bandage. The arm was then bound across the chest at an angle of 90° and all was well thus far. The bandages remained undisturbed for three days, when the doctor came and readjusted the splints after pronouncing it "doing well." The subsequent treatment of the fracture was accomplished by myself, with the assistance of my wife.

Before leaving, Dr. Birdsall said to me, "Now doctor, do not be disappointed when the arm gets well if there should be considerable stiffness of the joint from the formation of adhesions."

At this date (less than four months since the accident) I am happy to state that I can discover but a very trifling obstruction to the free movements of the shoulder-joint in every and all directions. I consider it a wonderfully good recovery from a serious accident, when my age and the extensive bruising of the soft parts are taken into consideration. A. O. STIMPSON, M.D.

THOMPSON, PA., May 3, 1896.

ABSTRACTS.

HYGIENE OF THE PHYSICIAN HIMSELF.*

The hygiene of the physician should be such a personal application of the rules of life and conduct as shall enable him to do the greatest good to the greatest number.

The highest mission of the physician is hygienic rather than restorative. To aid in removing every obstacle to the mental and physical development of the human family is the goal sought for.

It has come to be recognized as a fundamental law in sociology that a man's first duty is to the State, his second to his family, and his last to himself. Because a man is a physician, he is not thereby absolved from his duty as a citizen any more than are those in other callings. The hygiene of the physician himself is best promoted when he is a partisan in public affairs. Of course it is not to be supposed that every doctor should turn active politician, but it should be expected that every true physician will keep himself well-informed an all matters subject to legislation by his representatives, and that he will let his opinions be heard and felt when occasion demands.

To attain the high position in social and public life that his education entitles him to as a member of one of the learned professions, that of medicine, the most liberal of them all, the physician must needs give heed to his habits. The hygiene of the physician as applied to his habits requires careful attention. The masses look to the physician as authority on medical knowledge. He who professes to try to prolong human life and ameliorate the sufferings of humanity, should be well qualified to advise in regard to all rules of health, and to give this advice proper weight, his personal habits must be such as will lend the weight of authority to any opinion he may give. If the public see that he governs his daily life by those never-erring laws of nature, they will be more ready to follow where he leads.

The public conduct of the physician should be distinguished by sobriety and industry, for the personality of the physician, his disposition and habits, form a large part of his success or failure. Habits of intemperance are so easily formed by the wearied physician that a word of caution is expedient. At times, through overwork, an injurious strain upon the physical and mental forces is unavoidable. The physician becomes sleepless, loses appetite, fails in strength, and shows other signs of exhaustion. A stimulant or a narcotic may temporarily whip up the exhausted energies, but at the expense of more serious disaster later. The real remedies are rest and nutrition. Physicians should live well and avoid exhaustion by making a special study of foods and their effects upon themselves when suffering from extreme weariness. The vexed question of tobacco has a bearing upon this point. If the narcotic it contains is promptly eliminated by the system and the indulgence leaves no

*H. B. Tanner, M.D., Kaukauna, Wis. in Practical Medicine.

unpleasant taste in the mouth, an accasional cigar or semi-occasional pipe may prove of benefit.

In no other walk of life is it so absolutely necessary to practice personal cleanliness. In the practice of medicine personal cleanliness may well go first and godliness second. We have only to point to the elaborate directions in the Mosaic laws for the preservation of health through scrupulous attention to cleanliness, for our authority in stating that physicians should personally observe the laws of hygiene in regard to cleanliness in all of its details.

These habits of cleanliness should extend to the clothes we wear as well as to the care of the hair and beard. It is perhaps unnecessary in this connection to carry out the dictum of a Boston surgeon, who says no physician should wear a beard, for if the beard is a favorite nesting place for microbes so is the hair of the head likewise, and to sacrifice this would be a hardship indeed to some of the members of the profession, of the gentler sex. But if a physician must wear long hair, and a long beard, a decent regard for the teachings of hygiene requires that it be kept clean and in order. The care of the mouth and teeth is very essential. A more frequent visit, as a patient, to a practitioner of the sister profession of dentistry will do us all good. A pure breath and clean teeth free from cavities, serve to make life more agreeable to ourselves and pleasant to our patients. But above all, constant attention to cleanliness of the hands, will repay the best, for the hands are the most frequent source of conveying septic material.

The physician in active practice, with a number of patients with infectious diseases to visit every day, cannot change his attire after every visit, and indeed I do not believe it is necessary. If on visiting cases of diphtheria, scarlet fever, etc., the outside coat is buttoned up to the throat on entering the house, a brisk walk or ride in the open air before visiting the next patient will serve to dislodge or destroy any disease-germs that may have found a lodgement there. But with the hands a little more care is necessary. Before leaving the house the hands should be thoroughly scrubbed in hot water, with green soap, and after a careful rinsing to remove the suds, washed in a weak solution of bichlorid. Of course a more thorough preparation of the hands is necessary in surgical cases.

While it is proper upon all occasions to display a reasonable zeal in exemplifying the teachings of hygiene personally, I think it is altogether unnecessary for the hygienic physician to anoint his lips with carbolized rose-water before kissing his wife or sister, as suggested by a Chicago physician recently.

Nor do I think it would be a sufficient excuse to one's conscience to refuse to take communion at church because some enterprising dealer had not as yet succeeded in selling the trustees a set of individual communion cups. Nor would the physician, when called as a witness and ordered by the judge to kiss the Holy Bible, be justified in calling for a pad of iodoform gauze, to cover the Holy Bible, before complying.

These things are mentioned only to exhibit the vagaries of some of the teachers of hygiene. Since the science of bacteriology has demonstrated the omnipresence of microbes, and the direful results when they find a lodgement in the human system, it is not strange that occasionally a physician is found who is a "rabid antisepticist" and whose nervous dread of infection leads him to promulgate extreme measures to the detriment of his peace of mind.

If the physician would retain good mental health and intellectual vigor, sufficient for the discharge of these various duties in the best possible manner, he should avoid overwork and anxiety. It is the feeling of personal involvement and perpetual anxiety, as much as overwork, that breaks down the health and shortens the life of the physician. To this end he should cultivate a cheerful disposition, and so far as he is able free himself from anxiety as to results. To this end he should systematize his work, and so far as possible perform every duty at its proper hour. Office-hours should be regularly kept, hours for meals, for sleep, and for recreation should be as scrupulously observed. If a call comes which destroys the rest for a single night the lost sleep should be made up as fully as the

circumstances of the case will permit. Every physician should secure an annual vacation and relinquish toil altogether, even if it is only for a single day, for it is apparent that regular holiday seasons must be of great hygienic benefit to every hard-worked physician, and especially to the harrassed medical man of the city, to whom indeed it is a physiological necessity.

The human mind is not a machine that can be worked in one groove all the time. Its best and most satisfactory is in a change. It is worry and not work which wears out, and to have some congenial occupation into which to divert the mind when it is liable or likely to be over-burdened with work, is the best safeguard the brain-worker can have. That medical man is always safest who has a hobby. Every physician should have a pursuit or study, wholly outside of medicine, to serve as a diversion and means of recreation. To name all of the various means of thus diverting the mind of the physician from his work would be impossible, for in choosing such a pursuit we have a wide range of topics to select from, astronomy, drawing, outdoor sketching, photography, comparative anatomy, meteorology, hygiene, modern languages, hunting and fishing, etc. If we would retain good mental health, we must not lose faith in the future of our noble profession. The great advance in every department of medical science during the past twenty years leads us to anticipate most encouraging developments in the near future. We are on the threshold of a new era. Nature is yielding her secrets to patient enquiry. Mystery is becoming certain knowledge and assured truth. The future of medicine is inspiring. And if we would partake of the glory of this coming age we must pay close attention to the hygiene of the physician himself.

ACUTE ENTERO-COLITIS.*

It is estimated that over 70 per cent. of deaths from all causes in children under two years of age are due to some abdominal disease, and of this number over 30 per cent. are due to some diseases arising from defective or faulty nutrition. Of the predisposing causes of these diseases, perhaps the one that most often enters into the list is injudicious food.

During the summer months the physician is called daily to prescribe for these complaints, and the one great question for him to decide is, "What food shall I administer, and in what form?" We have all classes of children to contend with, some with the hereditary tubercular taint, some suffering from previous debilitating diseases, others from injudicious food, bad air, want of cleanliness, etc., and many times the healthiest children, when deprived of breast-milk during the first year of life, succumb to these diseases.

Most of these cases of entero-colitis may be classed under three heads: First, the period of premonition. The child at times appears to be in good health and spirits, alternating with periods of depression; it is peevish and irritable, the mother says without any appreciable cause; the flesh becomes flabby; the skin loses that soft and glossy look: it quite frequently throws up its food, which is always strongly acid; its appetite is capricious: the bowels may be constipated, alternating for a day or so at a time with diarrhea; the passages look like clay, and often contain white lumps that look like putty. This period is rapidly followed by the second, that of emaciation. In this stage the above symptoms are all aggravated; there is more or less fever; the vomiting increases, but the vomit always retains its acid condition; the bowel-irritation is more marked; diarrhea is almost always present; the discharges now take on a green color, are very offensive, markedly acid, and they always contain undigested food; the child loses flesh, its eyes are bright, but

*Alexander B. Briggs, M.D., Ashaway, R. I., in *Practical Medicine.*

it begins to have an old look, often refuses its food, but will swallow spoonful after spoonful of water, if fed to it by its nurse.

In the third stage, that of exhaustion, the symptoms are all aggravated; the child rolls its head from one side to the other almost continuously; its appetite is ferocious, taking bottleful after bottleful of food, which is vomited almost as soon as taken, only to whine and whimper after more; there is an aphthous condition of the mouth and throat; it is restless, sleepless, and looks like an old person; as the old women say, "This child will not live, it looks too old fashioned." Many times during this stage the vomiting ceases, but the diarrhea increases even to twenty or thirty passes in twenty-four hours; the emaciation is great; the abdomen becomes sunken, "boat-shaped," the extremities cold and marked with spots the size of a nickel, of a dirty-purple color. During this stage, convulsions often set in, convulsion after convulsion often following one another with no period of consciousness intervening until death ends the scene. More often the sleeplessness, constant whining and crying for food and water continues, until the child dies in the last stages of inanition.

Of the nature of the disease we do not wish to say much. It is quite evident that in the majority of our cases the trouble lies in the primary digestion of the food and not in the secondary assimilation, although, without doubt, in some cases both conditions are present. The disease usually comes on from the age of six months to two years. Very seldom is it seen after three years of age. The exciting cause is an acid fermentation of the food, caused, no doubt, by the excessive development of bacteria in the food either before, during, or after digestion.

Entero-colitis is a disease wholly distinct from cholera infantum, although it often masquerades under the latter name, many times being due to the attending physician, who calls every case of this nature by that name. In looking over the death-certificates filled out by the physician, it is far from infrequent to find the "cause of death" put down as "cholera infantum," and the "duration of disease" from "three to five weeks."

The treatment of the disease may best be considered under three heads: Clearing out of the alimentary canal, diet, antisepsis. As has been seen, among the first symptoms are vomiting and diarrhea. These are nature's efforts to relieve our little patients, and we can do no better than second her efforts. The stomach and bowels contain more or less fermentative matter, the development of bacteria having been going on during the first stage of the disease, or the period of premonition. If the physician attempts to check the vomiting and diarrhea at this stage, woe unto his patient. We have found nothing better for this stage of the treatment than tablets of calomel and bicarbonate soda, one grain each; one tablet every half-hour until six or eight have been given, to be followed by one or two teaspoonfuls of castor-oil, or, what is better, laxol. In a healthy child very few bacteria are found in the passages from the bowels, while in these cases they are often found in great numbers.

As soon as we have secured a free catharsis, we should supplement the treatment by antiseptic enemata, with the twofold purpose of flushing out the colon and rectum, and for their medicinal action. Nothing has served us better for this part of the treatment than from one to three pints of warm water, to which has been previously added ℥ii to ℥iv of listerine. In the dysenteric variety of the entero-colitis, where there is much straining, persistent tenesmus, and abdominal pain, some of the liquid preparations of opium may be added to these enemata.

In the medicinal treatment of entero-colitis antisepsis still holds good; benefit will often be obtained from some such combination as the following:

Bismuth subnit	℥iss
Pulv. cret. præp	ʒii
Listerine	℥ss
Aq. menth. pip. q. s. ad	℥iv

Sig. Dose (for a child one year old), one teaspoonful every four hours.

This mixture may be alternated with two-grain powders of salol, or resorcin, naphthalin, or any other of the antiseptic remedies in vogue may be used. We have seen the best of results follow

the use of small doses (1-500) gr. arsenite of copper, repeated every fifteen or thirty minutes for twenty-four hours, the length of time between doses being gradually extended as the vomiting subsides and the passages become less frequent.

Cleanliness is of the utmost importance in the treatment of these cases. The child should be bathed at least once a day; the napkins after a thorough boiling should be rinsed in warm water into which has been added some antiseptic, as Platt's chlorides; the clothing should be light and cool, with a flannel band around the abdomen; all long dresses and skirts should be discarded, and the child should not be held in the lap of the nurse long at any one time, as by so doing the heat is materially increased.

Perhaps the most important part of the treatment in acute entero-colitis is the food; certainly without due care and judgment along this particular line, all other treatment we may institute will be nil. As we have stated, the disease seems to depend more upon an inability to digest the food than to assimilate it. Such being the case, it would seem that whatever food is given the first few days of the disease, should be in a form partially digested or easily digestible, or what is preferable, in some cases, none to be given at all. In children who have their mother's breast-milk to fall back upon, we are in the habit of stopping all food for the first twenty-four hours, giving instead a full amount of pure water that has been previously sterilized by boiling, for the next day or two giving them the breast in a limited amount, gradually returning to a full diet.

When we have to depend upon some substitute for the mother's milk, two very important points should always be borne in mind. First, it is worse than useless to give food that cannot be digested; and, second, the food must not be given in too large quantities at any one time. A properly selected food, given a little at a time, and often, has saved many a child's life, while food that cannot be digested, forced into the child's stomach, frequently in large quantities, has killed ten times as many. The habit some mothers have of resorting to the nursing-bottle to quiet the child whenever it worries is most pernicious and always increases the diarrhea. A half-pint or pint of warm antiseptic water, to which a few drops of paregoric have been added, thrown into the rectum, will seldom fail to relieve the tenesmus or colicky pain from which the child is suffering.

The casual indications would seem to be to give some food that is partly digested. Such foods should be free from grape-sugar and starch. During the past year we have had some excellent results from the use of Just's Food. It is a partially digested food, prepared from selected cereals, and, when mixed with pure cow's milk, is easy of digestion and assimilation. We say pure milk, and when we say pure we mean milk that has in no way been contaminated, and not procured from diseased animals.

Two physicians, one Chinese, the other of English parentage, travel with Li Hung Chang, the Chinese viceroy. The latter, Dr. Irwin, was a physician of some distinction in hospital practice in England, and went to China in 1876. In 1879 he was called in to attend a very serious case in the Imperial household. The patient recovered, and Dr. Irwin became the chief physician to the viceroy and his family. Li Hung Chang secured for the physician the honor of the imperial order of the Double Dragon, the same that was bestowed on Gen. "Chinese" Gordon through the good offices of Li Hung Chang. During the China-Japanese war Dr. Irwin rendered eminent service to the viceroy and to the medical department of the Chinese army and was advanced in the order of those services. During the stay of the viceroy and his suite in New York, Dr. Irwin took particular pains to refute the stories that had gone out in the daily press to the effect that Li Hung Chang and the official members of his party were addicted to the opium habit. Dr. Irwin stated over his name that not only was the Viceroy not given to opium-smoking, but that that habit was one which he most thoroughly detested and which he had made most strenuous efforts to discourage among his own nationality. The viceroy is an habitual tobacco-smoker.

fere with intestinal movements. It may be given in doses of one to three grains internally, every three or four hours, as needed to subdue pain; and from half to one grain hypodermatically.—*Pediatrics.*

In cases of severe injury to the fingers by laceration or contusion, put the entire hand into a very ample soaking-wet dressing. Do not trim off any pieces of flapping skin. Incision for drainage is all that is allowable until healing is very well under way. A half inch of boneless finger may be of great value to its possessor.—*International Journal of Surgery.*

An ebony case filled with exceptionally large and fine specimens of ginseng root was presented to Li Hung Chang while in New York, by Hirsh & Lowenstein, of that city. This root is found in many places in the United States and Canada, and is exported to China, where it is used as a drug. Its scarcity makes it very valuable, and it commands exceptionally high prices compared to other crude roots and herbs. Some of the above specimens were the largest ever seen by the oldest dealers. The presentation was made in acknowledgment of the honorable business methods of the Chinese people.—*Journal of Commerce.*

With all the credit due to pharmaceutical chemistry, and all our obligations to it, I doubt whether, in one chief respect, it has not done some harm. To bring many important remedies together, and unite them by a lucky combination, and compress them within a small compass, and so place them within the common reach, all this gives a facility of prescribing which is hurtful to the advance of medical experience. The facility of prescribing is a temptation to prescribe; and under this temptation there is a lavish expenditure continually going on of important remedies in the mass, of which the prescribers have made no sufficient experiment in detail. A simple implement or two, which a man has well proved for himself, is worth a whole armory of famous compounds taken upon the general credit.—*Peter Mere Latham.*

For the sedentary man, whatever his calling in life, whose engagements permit him only to take just that moderate amount of muscular exercise which is in all circumstances essential to health; for a great proportion of women whose habits mostly are not, and often cannot, be active—the nutritive elements afforded by fish admirably supply an important part of the wants of the body. The moderate amount of flesh-forming material present in fish, and in a form which entails little labor on the digestive organs (for most persons certainly eat less than meat), and the facility with which fish may be associated with other elements—some fatty matters, with cereals and vegetables, as well as fruits—place it in the first rank of foods in that mixed dietary which is suitable to those who lead more or less the kind of life referred to. I by no means say that it should supersede the use of meat altogether, although it may do so sometimes with advantage—a point only to be determined in each individual instance after some observation and experiment. For in all cases it is to be remembered that no man who has habitually eaten meat two or three times daily can at once exchange it for fish and cereals or vegetables without some discomfort, to say the least. All radical changes in diet, even in the right direction, require to be gradually made; the stomach conforms slowly when long accustomed to deal with highly nitrogenized animal food, to the task of deriving from unaccustomed materials the support necessary to the body. Given time for such modification of function, and it is remarkable—at least it appears so to those who have not practically studied the subject—that a diet which, if adopted suddenly, might be equivalent to semi-starvation may by degrees become the most healthful and nutritious which the individual can adopt.—*Sir Henry Thompson, in Food and Feeding.*

Insanity in its relation to crimes, contracts and wills, inclusive of the spirit of the laws of his State as to the proof of mental alienation, is considered in the *Physician and Surgeon*, by Prof. Frank T. Lodge, of the Michigan College of Medicine. As regards the legal proof of insanity, he says: In nearly every case where insanity is set up, physicians are called as witnesses. The law does not recognize expert testimony in these cases as being of any greater value than that of ordinary persons. The credibility of each person's testimony, be it laymen or doctor, is to be weighed and determined by the jury. Nevertheless, if the testimony of a physician, called as an expert witness, is properly given, it must and should have weight with the jury. As a rule, the physician will be called to testify with reference to the particular person whose sanity is under consideration. His testimony should be based upon a previous examination. The subtle essence of the mind cannot be subjected to ocular and visual examination. Its quality must be determined from close observation of the acts and conversation of its owner. Most physicians testify from a short conversation with the person, and we all know how unsatisfactory such an examination is. Nervous persons of perfectly sound mind may appear almost insane under certain conditions, while the wildest lunatic frequently converses for hours rationally and intelligently. In many cases it is only when his particular hobby happens to be touched upon that he manifests his mental bias, and in the absence of previous knowledge, how can the examiner know toward what point to direct his inquiry? In my opinion, the sanity of no person should be decided until he has been under close observation by competent

physicians for a considerable period, say from one to two months, under all the circumstances most favorable to the examination. The examiner should be furnished with the life history of the patient, the history of his family for two or three generations, the mental condition of his ancestors with relation to possible hereditary taints, and the many other details which will readily occur to all of you. Without this opportunity for a careful and thorough examination, there will always be abundant opportunity for punishing innocent persons for crime, for setting clever and unscrupulous scoundrels at large and for depriving imbecile and incapable persons of large property interests by the clever machinations of designing villains.

The general practitioner frequently encounters a class of cases in which the chief symptoms seem to depend upon a functional disturbance of the liver, in connection with an increased formation of uric acid and urates. Murchison was the first to group these cases under the head of "lithemia." In many respects this trouble closely resembles gout, so that by some authorities it has been designated "American gout." As regards treatment, it is well to remember that, as recently pointed out by Haig, the elimination of uric acid is greatly influenced by the condition of alkalinity of the blood. He believes that remedies which increase its alkalinity will also increase the solubility of the uric stored up in the various tissues so that it is more readily taken up into the circulation and excreted by the kidneys. In Lycetol, the physician possesses a remedy which will not only exert an alkaline effect on the blood, but manifests a strong affinity for uric acid, keeping it in a soluble state and facilitating its elimination. Dr. Gaston R. d'Aulnay has recently reported very successful results from its use in the different forms of the uric acid diathesis. Several patients suffering from gravel passed much larger quantities of uric acid within a short time after its administration. In a case of gout, the attacks were completely aborted by giving lycetol for a number of days before the time when one was expected. Nephritic colic in lithemic patients was also prevented by administering it for some time before an expected attack. On the ground of his experience, the author claims that lycetol is an excellent remedy against the uric acid diathesis, that it is superior from the curative point of view to all the remedies employed for the same purpose, that it has the further advantages over the latter of having diuretic properties, of not being hygroscopic, of having a pleasant taste, and, therefore, of being capable of administration in solution if desired.

The moral treatment of epilepsy, is certainly new, and has not received, until lately, any of the consideration which it merited says Dr. Frederick Peterson in the *Texas Medical Journal.* It is only too well known how epileptics have been dismissed with a prescription and possibly some advice as to regulating their diet, rest and exercise. But the especial needs of this peculiarly unfortunate class of dependents had never been brought fully before the profession. No hospitals receive them. The schools cannot take them. No one wishes to employ them. They are ostracised from society, forbidden to take part in the recreations of their fellows, and shunned more or less by everybody. Untaught, idle, sick, neglected, they drift finally into the only shelter offered them—almshouses and insane asylums. But a large majority of them, were it not for their attacks, could be educated in schools, could acquire trades, could enjoy recreations and take a part in the affairs of mankind.

Thus it is that a scheme of colonizing them has been undertaken in several of the United States, following the example of Germany and France. The State of New York, at Craig Colony, has a tract of nearly 1,000 acres of the best kind of agricultural land with already some thirty or forty buildings upon it. Here the epileptics of the State already upon public charge are being congregated (there are over 1,000 to be cared for in this manner) and are to be given education in the usual branches of learning, taught every kind of industrial occupation, to be treated for their malady and be afforded a home in a sort of village life where they will no longer feel their social isolation nor be debarred from the innumerable privileges enjoyed by the rest of humanity. This moral treatment of epilepsy is by far the greatest stride in advance taken for centuries in the therapeutics of one of the most distressing of nervous diseases.

A prominent physician of India recently died from the bite inflicted by one of the deadliest of snakes. He had been making experiments with a view to the discovery of an antidote, and supposed he had rendered himself proof against the venom of snakes. One of the worst victims of rheumatism we ever knew was a man who had discovered a positive cure for that disease. The secretary of the Amick Consumption Cure Company died of tuberculosis.—*Pediatrics.*

The hypodermatic use of guaiacol in phthisis is considered with especial reference to its effect upon the temperature by Dr. A. A. Stevens, illustrating with four cases.

From these cases he draws the following conclusions:

1. That guaiacol can be safely administered hypodermatically without the aid of a vehicle.

2. That the antipyretic effect of the drug in phthisis can be best secured by its subcutaneous administration.

3. That the favorable influence on the course of phthisis of guaiacol exhibited *per os* is often more pronounced when the drug is given hypodermatically.

Treatment of cough and its associated conditions, as considered in the *Kansas City Medical Index* by Dr. Herman E. Pearse, divides cough into two general classes clinically. This classification is here submitted:

1. Coughs that may safely be lessened, quieted or stopped by drugs.
2. Coughs that should be encouraged.

I. May safely be relieved by drugs.

Acute.	1. Dentition cough.	Reflexes.	
	2. Ear diseases and irritations.		
	3. Gastric and enteric irritations.		
	4. Malaria.		
	5. Nasal irritations.		
	6. Whooping-cough.	Neuroses.	
	7. Croup, spasmodic.		
	8. Croup, membranous.		
	9. Pharyngitis.		
	10. Pneumonia, *when dry.*	Inflammations.	
	11. Pleurisy.		
	12. Trachitis, bronchitis.		
	13. Weak heart.	Irritations.	
	14. Paroxysmal stage of asthma.		
Chronic.	15. Organic heart lesions.	Varicose adenoid.	
	16. Enlarged tonsil and post nasal growths.		
	17. Evening and night coughs of phthisis.		
	18. Evening and night coughs of chronic bronchitis.		
	19. Gastric or enteric irritations.		
	20. Lingual tonsil.		

II. Should be encouraged.

Acute.	21. Broncho pneumonia, or capillary bronchitis.	
	22. Lobar pneumonia if expectoration be in process.	
Chronic.	23. Morning cough of phthisis.	
	24. Dilated bronchi.	
	25. Chronic bronchitis (morning).	
	26. Perforated abscess.	
	27. Intra paroxysmal asthma.	

Each may be divided into acute and chronic conditions for the purpose of assisting in the direction of treatment; chronic cases requiring positively for their successful treatment a correct appreciation of the causes underlying the cough, while an acute case will frequently require nothing more than a mild sedative and a day in bed to complete its cure.

The treatment of the nose and throat during measles and scarlet fever is a matter of general interest. The objects to be accomplished, according to the *Medico-Surgical Bulletin*, are: To thoroughly cleanse the mucous membrane; to render the secretions alkaline; to render inert the bacteria which may be present, and, finally, to lubricate the mucous membrane and protect it from too rapid evaporation. In cleansing the nares, use a simple one-bulb atomizer, which is coarse and free, in order not to blow a lot of air into the nostrils, or it may be poured from a teaspoon, a dropper, or a Dessar's nasal douche cup. Cleansing solution: Seiler's antiseptic tablet, one tablet; cocaine, four grains; and water, two ounces. Oily protective; liquid albolene or hydrastol, a preparation of hydrastis, with oil of cinnamon and other aromatics, one ounce; menthol, thymol, or eucalyptol, one grain; and spirits of chloroform, one-half drachm. One-half per cent. cocaine may be added by first dissolving it in oleic acid (one grain of alkaloid to the minim of the acid).

For acute zymotic coryza of children: Eucalyptol, six minims; cocaine, five grains; oleic acid, five minims; chloroform, one drachm; and hydrastol, two ounces; or thymol, two grains; terebene, five grains; and hydrastol, one ounce. For catarrhal laryngitis: Chloroform, one-half drachm; menthol, five grains; camphor, ten grains; and hydrastol, enough to make one ounce—spray down into the larynx several times daily. If a powder is desired as a protective, use the compound stearate of zinc, combined with boric acid, ten per cent.; menthol, two per cent.; cocaine, four per cent., etc. If there is a croupous exudate, use peroxide of hydrogen, preceded by a spray of one per cent, solution of cocaine, and followed with an oily protective. For epistaxis, the application of peroxide of hydrogen is excellent. The inhalation of warm, medicated steam is valuable, and one-half to one drachm of any of the following mixtures may be added every two or three hours to the boiling water: Tar, one ounce, and alcohol, four drachms. Or, carbolic acid and cresoline, of each two drachms; and eucalyptol and balsam Peru, of each four drachms. Or, gum camphor, one drachm; menthol, two drachms; oil pine needles, two drachms; eucalyptol, two daachms; and oil of tar, enough to make two ounces. Or, eucalyptol and thymol, of each one drachm; carbolic acid and benzoic acid, of each thirty grains; and terebene, enough to make two ounces.

A routine examintion of the urine is of great value according to Dr. M. H. Fussell, (*University Medical Magazine*). In order that urine examination may be done conveniently, a special room, or a portion of the office cut off with a screen, should be provided for this work. The following are necessary articles:

(1) Test-tubes; (2) pipettes; (3) alcohol lamp or Bunsen burner; (4) nitric acid; (5) litmus paper; (6) Fehling's solution (the copper solution in one vial, the alkaline solution in a separate vial); (7) microscope.

Dr. Fussell concludes:

1. Examine the urine of every patient when he comes under your care.
2. If the case be a chronic one, make urine examinations at stated intervals, whatever be the ailment.
3. Always examine the urine for albumin, for sugar, and microscopically.

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2065. SATURDAY, OCTOBER 3, 1896. VOL. LXXV—No. 14

ORIGINAL ARTICLES.

A FEW PRACTICAL POINTS IN THE TREATMENT OF THE COMMONER DISEASES OF THE STOMACH.*

BOARDMAN REED, M.D., PHILADELPHIA, PA., AND ATLANTIC CITY, N. J.

The most common gastric affections are the catarrhal inflammations, morbid variations in the character of the gastric juice, atony of the muscular walls with or without dilatation, and, in women especially, as a consequence of their irrational dress, displacements of the organ downward.

In the treatment of the catarrhal inflammations, whether acute or chronic, the selection of a bland and unfermentible diet is of the first importance. This is an indispensable condition. Patients who cannot or will not control their craving for sugar, highly-spiced viands, or foods fried in fat, might as well be told at once that their cases are hopeless.

Next in importance in these catarrhs, when they have become chronic or are verging into that condition, is washing out the stomach, whether it be upward by lavage or downward by a copious drinking of hot water variously medicated or flavored. This washing of the alimentary canal downward with abundant hot water is an American innovation, though analogous to the Carlsbad cure. Like the latter, it is very useful in appropriate cases when carried out under the observation of an experienced physician and not too long continued. But, like the Carlsbad cure again, it does great harm in cases which are not suitable for it.

There is a wide-spread notion that hot-water-drinking as a method of cleansing the stomach is safer and milder than lavage, but this is for many cases a serious error. It not only fails, but makes matters worse in the frequent cases where the catarrh is complicated with dilatation, or even with much atony (deficient motility) precisely the class of cases in which help is most urgently needed.

Here the hot water does not wash out or cleanse to any useful extent, since the organ is too weak to force it onward into the bowel, or, at the best, does this very slowly and imperfectly. During the retention of the water for many

*Read before the Atlantic County (N.J) Medical Society, September 16, 1896.

hours in the stomach the bulk and weight of the contents are increased by the addition of the food necessarily taken. Thus the organ is being continually overdistended and overburdened, with the result of aggravating the atonic condition—increasing any existing dilatation, or producing it when there was only weakened motility before. And the more dilatation, the more stagnation, fermentation and gastritis.

Such a vicious circle can be broken up and any satisfactory improvement effected only by introducing small quantities at a time of hot water medicated with some appropriate antiseptic drug, and then quickly withdrawing it by siphonage. Unlike drinking largely of water, this cleanses the stomach and medicates its diseased membrane without overdistending it.

Indeed, in all the cases of markedly-weakened gastric motility, whether the organ be dilated or only in danger of becoming so, our duty is to protect the stomach in all ways from overloading. Such patients should eat little at a time and often, and should partake sparingly of fluids.

When the motor function is normal, the propulsive power being equal to the task of emptying the viscus within the normal limits—two to seven hours, according to the size and character of the meal—any existing catarrhal process may be safely combated by drinking hot water, if care be exercised that the water is not taken within the hour next preceding the meals.

It is well to add from five to fifteen grains of bicarbonate of soda to each glass of hot water, except where the analysis of the stomach-contents after a test meal, has shown much deficiency of hydrochloric acid. Such a deficiency is the usual condition found in old chronic gastric catarrhs. In these cases phosphate of soda or common table salt may be used instead.

I have often had patients try this drink cure with fairly good results in appropriate cases. But in my earlier practice, before I had learned to differentiate my cases, the results were not often satisfactory. Especially unfortunate were some of my trials of the prolonged administration of soda in hot water before meals in unsuitable cases in which neither an analysis of the stomach-contents nor any tests of the motility had been made.

It is highly important that we should be able to measure the propulsive energy of the stomach-walls without introducing the tube or other intra-gastric instruments, since the use of these is sometimes impracticable.

Ewald's salol test has long since been abandoned in Germany as unreliable. I have recently called attention* to the possibility of ascertaining by percussion and the splash when the stomach has emptied itself, and of thus testing the motor function of the organ by a method which is simple and not vexatious to the patient. The determination of the boundaries must first be made, and to do this accurately by means of the clapotement and percussion requires much practice, but, once these boundaries have been established, it is easy in most cases, by the absence of dullness over the most dependent portion of the stomach while the patient stands, to ascertain that the viscus is empty. On the other hand, a splash within the stomach limits, or dullness there elicited on percussion in the erect posture, proves that some of the contents still remain.

By repeating this test at different intervals after meals, the motor power of the stomach may be measured with at least as great an approach to exactness as by any other method, except possibly Leube's plan of emptying the contents with the help of a tube six to seven hours after a full meal.

The downward displacement of the stomach (gastroptosis) from which a few men and a large proportion of women in all the walks of life are suffering, is very generally overlooked. Of fifty stomachs examined at my office (in Atlantic City) during the months of July and August, 1896, just one-half were found to be displaced, most of them so far downward that the upper border was at or near the lowest rib in the left parasternal line, while the lower border was below the umbilicus. These examinations included a careful percussion of the abdomen with the

*The Diagnosis of Changes in the Size, Position and Motility of the Stomach in Cases where Intra-gastric Instruments cannot be Used. *Medical News*, January 18, 1896.

patient first recumbent and afterward standing, and before and after drinking one or more glasses of water. Clapotement was also practiced in every instance in order to elicit the splashing sound as a confirmatory sign. In the most difficult cases the results were further confirmed by either inflating the stomach with air, or by introducing a small electric light inside the stomach and noting the illuminated area in a darkened room. In a considerable proportion of them, lavage was also done, and thus additional corroborative evidence obtained as to the position of the lower border of the organ.

During the period mentioned, numerous other similar examinations were made of patients at their residences or hotels in Atlantic City, but the records of these being incomplete and less accessible, have not been included.

Of the fifty mentioned, twenty-two were men and twenty-eight women. Only four of the twenty-two men, or eighteen per cent., had displaced stomachs, while twenty-one of the twenty-eight women, or seventy-five per cent., presented this deformity. This is certainly a most significant evidence of the need of dress reform.

The dislocated stomachs had, in most cases, been pushed and dragged down into the lower abdomen or pelvis, carrying with them usually the transverse colon, and, in a majority of the cases, one or both of the kidneys.

Well-fitted abdominal belts will usually mitigate some of the consequences of these displacements. The resulting constipation is best overcome by diet, massage, and exercise of the trunk muscles. The concomitant floating kidneys in the worst cases need to be anchored in place by an operation.

Variations in the gastric juice are very frequent and full of importance. Hyperchlohydria, or excess of the hydrochloric acid, is exceedingly common, and the results are often most afflicting and far-reaching. The treatment demands a careful use of alkalies, improved hygiene, a non-stimulating diet, change when practicable to some invigorating climate, such as that of the seashore or mountains, and all roborant measures except stimulant or tonic drugs by the mouth. These last generally aggravate the hyperacidity. The constipation which usually results will often yield when the gastric glands have been restored to their normal condition. Such cases never need pepsin, of which they have an excess, but, as a rule, they digest starch imperfectly, and may take the preparations of diastase with advantage.

The contrary condition of diminished or absent hydrochloric acid will often improve astonishingly when the latter drug is administered in good doses at frequent intervals after meals. Even in these cases there is usually pepsin enough when the deficiency of hydrochloric acid has been supplied, but exceptionally the pepsin and rennet ferment are also deficient, when they should be furnished the patient artificially.

That a physician has the right to withhold alcohol was recently decided by the highest criminal court in Magdeburg, in a trial at the instance of the State Attorney, who was accused of having caused or accelerated the death of a man who had been thirty-six hours under his care, whom he had sent to hospital, where, after treatment for eight days with large doses of alcohol and quinine, the patient died. The accused had administered no alcohol. The disease was stated to have been serous inflammation of the cellular tissue of the left arm, ushered in by pyrexia (blood poisoning). The district medical officer and one of the hospital staff attributed the death to the withholding of alcohol. In justification, Dr. Hirschfeld pleaded that he believed alcohol to be mischievous in all diseases, taking away the patient's strength. Smith, of Marbach, quoted Harnack, of Halle, and Drysdale, of London, and there were two adjournments to procure an authoritative opinion from the General Medical Council of Saxony, which opinion called attention to the great change of medical opinion as to the therapeutic value of alcohol, and upheld the principle that it is inadmissible to put any limit to the exercise of the individual judgment of the physician. There was a verdict of acquittal, and the State was made liable for the costs of the prosecution.—*British Medical Journal.*

SOME OF THE USES OF PHYTOLACCA DECANDRA.

F. R. MILLARD, M.D., San Diego, Cal.

It is probable that no article of our indigenous *materia medica* falls so far short of doing all the good it is capable of doing as poke-root. One cause for this failure is that it cannot be completely dried and retain all of its medicinal properties unimpaired. Further, when powdered, it continues to deteriorate and at length becomes worthless. The so-called phytolaccin does not represent all the medicinal properties of the root, and the solid extract is still nearer being worthless for internal use. Hence a well-made fluid extract, or a saturated tincture, is best for administration. Much of the fluid extract on the market is unreliable, and none of it is so good as any doctor, who can gather the roots can make for himself.

Another cause is, the variation in the strength of roots grown under varying conditions. When a boy, one of my duties was to dig and prepare the poke-root, a good deal of which was used on the farm as a cathartic and alterative, for both cattle and sheep. I found that a much larger quantity was required of roots from a certain locality to produce any perceptible effect, than was the case when the roots were got from another locality. Further observation showed that the poor or inactive roots were grown on a northerly or northwesterly slope, the plants of tall growth, not much branched, the branches tending to an upright direction and the whole but slightly colored. The active roots were grown on a southerly or southeasterly slope, the plants of a comparatively low growth, much branched, with the branches tending to a horizontal direction and the whole highly colored. A fluid extract made from the two classes of roots mentioned, will differ as much in strength, as the plants differ in appearance. If it were a difference in strength only, the doctor could test each new supply and find the proper dose.

But there is another element of uncertainty. The alterative and emetic principles are not identical, and while the poorer roots are deficient in all the active principles, there is a greater relative deficiency of the alterative than of the emetic principles. But it is the alterative action which alone makes it valuable. The fluid extract was prescribed for some patients with chronic disease of the skin, and although the dose was increased until it caused nausea, no improvement was manifest. Believing that poke-root was the drug indicated, a saturated tincture was made from selected roots, and the patients were directed to begin with five drops three times a day, and to increase one drop each day until slight nausea, or griping was caused, when the dose was to be decreased to an amount that did not cause discomfort. No other change in the treatment was made, and in a short time improvement was manifest and went on until recovery was complete.

The alterative action is primarily and principally on the sebaceous glands, and on glands that are modifications of that type. There is no purely vegetable alterative that so surely selects these glands for the sphere of its greatest alterative activity as does poke-root. Hence, it should as a rule, be given alone, although in some cases, it and burdock-root may be combined with advantage. Just now I do not think of any other combination of vegetable alteratives that are not disadvantageous. I will not except the much-advertized *succus alterans* (McDade), so highly lauded as a cure for syphilis. I have known men who have taken dozens of tablets of it, and have not seen a case of syphilis cured by it yet.

Puerperal mastitis is said to be caused by a coccus, but if it is begun before the inflammation has devitalized the tissues, the administration of poke-root every three hours will always abort it. To women who always expect to have a broken breast as they call it, it should be begun soon after labor, or, which is still better a week or two before, giving three doses a day.

Previous to the advent of salicylate of soda, poke-root was my main reliance in treating quinsy. I now use the salicylate until the acute stage is passed and then the poke-root internally and locally for some time. When a proper preparation has been properly used, it has not failed to permanently cure patients which had been subject to frequently recurring attacks.

I have never made any local use of the plant in treating cancer, mainly from the fact that in my younger days I had the opportunity to follow up the histories of several persons from whom cancers had been removed with poke, and in every case the cancer returned. In common with the majority of the profession, it was my belief that an early and free removal with the knife offered the patient the greatest chance of future immunity. Some from whom I have removed cancers have died within a few years from other causes and some have been lost track of. Very few have escaped recurrence. We are not taught that epithelioma predisposes to schirrus, but two of my patients from whom I removed epithelioma, died from schirrus. In one, the interval between the operation and the fatal termination was four years; in the other, fifteen years. In neither was there a return of the epithelioma and in neither was any after-treatment pursued.

If begun quite early the administration of saturated tincture of poke-root, one part, and saturated tincture of burdock root, two parts, sometimes seems to delay the progress of both varieties. It has not seemed to have much effect on either after ulceration was extensive and no effect on sarcomas. Several who have taken this treatment have had their lives prolonged, or rather the fatal termination did not come until from five to ten years from the discovery of the tumor. In two, the tumor which clinically answered to all the requirements of incipient schirrus disappeared, one for three years and the other for nine years, when the sufferers died from an acute disease. That either was true cancer I cannot affirm, but both were so diagnosed by an experienced consultant.

In 1863 Mrs. B. applied for relief. She had a non-operable schirrus of the left breast, involving the axilla to such an extent that the elbow could not be brought to within four inches of the side. She took the treatment with what might be termed regular irregularity and though at times it seemed to decrease, yet counting by years it grew. For twelve years she did a good share of the housework for a large family when I lost track of her. From the slow progress of this tumor it may be thought that it was not cancer. But before coming under my care she had been examined by three careful diagnosticians and none of them had any hesitation in pronouncing it schirrus cancer.

In 1863 I removed an epithelioma from a miner sixty years of age, involving the left *alæ nasi* and adjacent lip. The resulting deformity was less than I expected. In 1867 I removed another from near the inner angle of the left eye. The contraction of the scar caused a slight ectropion which he declined to have remedied. At that time I again examined a suspicious looking spot on the outer one-half of the same lid and expressed my belief that it was larger than it was at the time of the first operation. He said it was not and that it was a powder mark and had been there thirty years. My advice was to leave it severely alone for the present and if it should perceptibly enlarge, he would best have it and the eye removed at the same time. In the interval between the two operations an older brother had died from cancer and he was induced to take the internal treatment which he followed with a great deal of irregularity for seven years, during which time the spot was stationary. He then fell under the care of an eclectic, who disabused him of the fear that it would ever become cancerous and when it began to enlarge proceeded to destroy it with caustics. In less than two years it invaded the brain and caused his death. Whether a persistent continuance of the treatment would have prevented the cancerous development must always remain an unsolved problem.

Medical treatment will sometimes cause a slight decrease in the size of cystic goitre, but complete or practical cure can only be obtained by surgical means. Non-cystic goitre in the young can generally be practically cured by

medical means. By practically cured, it is meant that close inspection is required to detect the enlargement. In those who are past middle age, great reduction can often be secured, but complete cure very seldom. Goiterous patients do not as a rule bear the internal administration of iodine in large doses very well, and if large doses are persistently given the result is often disastrous. Such results never follow the administration of poke-root, which should be given in doses just short of causing discomfort with the local application of an ointment of red iodide of mercury, one part with twenty-three parts of lard well rubbed in with a wooden spatula, the goitre left uncovered for six hours and then the ointment thoroughly applied with the finger and the patient cautioned to leave it without touching it for two or three days. If the application has been well made, the skin will peel off, and in about a month it should be repeated. If on examination two or three days after the application it should seem that it had not been sufficiently thorough, it can be repeated. Little good is to be expected unless the ointment is strong enough to cause a good deal of discomfort. The doctor who will persistently pursue this course for from six to twelve months, will generally be rewarded with a cure, and judging by my own experience it will often be his sole reward.

A PRACTICAL WAY TO INCREASE THE MEMBERSHIP.*

S. S. TOWLER, M.D., MARIENVILLE, PA.

The leading idea of this paper is borrowed, but so far as lies in me, I wish to return the principal with interest. The question of increasing the membership of the county societies is not touched, except so far as influence of the state society contributes thereto. Any organization, seeking enlarged membership from a select class, must be attractive and useful to that class. Its attractive usefulness must be apparent, commanding and publicly known. What it is, what it does, how it accomplishes its purposes, must be placed frequently before the eyes, and poured into the ears, of those whose companionship it seeks. In short, although the word may strike some as ill advised, it must advertise. Yes, advertise! Advertise boldly, attractively, and yet ethically. This state society has within its membership general practitioners and specialists who are the peers of any of their class. Their scientific attainments, their lectures, papers, operations, and treatment, generously placed before the medical public, play little or no part in enhancing the value of membership in this society. The papers read and discussed here make their appearance in a volume of "Transactions," that the larger class of practitioners never see, and our own membership seldom read. If advanced sheets are sent to medical journals, all the credit this society gets is in a small note in very small print, reading, "read before etc.", at the foot of the first page.

The talent of this society is hid, so far as the society is concerned. The class we wish to reach should be impressed with the fact that such and such a paper was brought out by this organization. That its author belongs here, and that his fame is our fame. Again, this society ought to be brought before the laity by activity in the line of public health and hygiene. It ought to be first in all legislation, affecting not only the profession, but public health, to such an extent that the lay mind would concede to it the leadership in these matters.

Again let this society take advanced business methods in its organization. Let it be understood, that its officers will be chosen only on the score of qualification for the position,—president and vice-presidents, from those qualified to preside and dispatch business; secretaries,

* Read before the Pennsylvania State Medical Society, May, 1896.

because of fitness for that office; and trustees on account of business ability. There are too many brainy men in the membership to single any of them out, as officials on the score of compliment, to advanced medical learning. That policy is unfair to the peers of the member so chosen. The policy here recommended, of choosing on account of business fitness for the position, is not only common sense, but it does away with jealousy and suspicion of clique. A doctor may make a very weak officer, and yet be a brilliant leader on the floor, and *vice versa*. Why mar the harmony of things, by putting him in the wrong place?

This society ought to have its own journal. In it, the talent of our members would reflect credit on them as much as it now does elsewhere, and a great deal more than it now does on this organization. This journal should have its quiz column giving light to any member wanting information. Every thing that passes here should be fully published, papers, discussions, business, as well as a full account of receptions and fraternal hospitalities. Such a journal would show the world that we exist, and exist for a purpose, not for the benefit of the few, but for the welfare of the many. It would show that the humblest member would have as kindly consideration as the proudest professor within its ranks. Its ten minute papers would be read, when columns of rehashed literature would be laid aside with a groan.

Many practitioners rank us as narrow and selfish. A large part of the lay public regard us as specially hide bound, —a sort of close corporation. Neither party will ever know better until we teach them better. That can only be done by public print laid often before them. Such a publication makes the society prominent, and it is prominence that first attracts the outsider. That outsider soon learns that, to become a member of this society, he or she must first be one with the doctors of their own locality. It places before the local physician a higher plane to be reached, one that can only be attained by beginning actively at home.

Organization we have, utilization and concentration is within our power.

CONSUMPTION AMONG THE COLORED POPULATION OF THE SOUTHERN STATES.*

G. W. HUBBARD, M.D., NASHVILLE, TENN.

So far as I have been able to ascertain from the testimony of many physicians who practiced in the South before the late civil war, pulmonary consumption was a comparatively rare disease among the slave population, some even affirming that it was entirely unknown. Dr. E. H. Sholl, of Birmingham, Ala., in the *Virginia Medical Monthly* says: "From April, 1856 until April, 1862, when my army life began, a large proportion of my practice was plantation work among the slaves who were in that section of Alabama, well-fed, well-housed and carefully nursed when sick; and I cannot recall in all my service in those six years one solitary death from consumption among the slaves of my district." The following statistics show that this condition of things has been entirely changed during the last thirty-one years.

According to the census of 1890, the total number of deaths from consumption in the United States for the year ending May 31, 1890, was 102,199; of these, 84,173 were white and 18,026 were colored; the per cent. of deaths from this disease being 11.1 among the white population and 15.4 among the colored. In the State of Alabama for the same year the proportion was 8.1 white to 12.7 colored, or about fifty per cent. greater. The following table

* Read before the Tennessee State Medical Society, May, 1896.

shows the relative per cent. and also the number of deaths from consumption per thousand of the population in a number of the principal cities of the Southern States:

	Prop. to Total Mortality.		Proportion to 1000.	
	White. Per ct.	Colored Per ct.	White. Per ct.	Colored Per ct.
Atlanta, Ga., 1892.....	9.	18.	1.7	7.7
Baltimore, Md.....	9.	15.	2.	4.8
Charleston, S. C., 1894..	9.1	13.8	1.5	5.8
Memphis, Tenn., 1892..	11.8	16.4	2.9	4.5
Nashville, Tenn., 1895..	9.8	22.5	1.5	6.6
Richmond, Va., 1894.....	14.	13.	2.1	2.7
Macon, Ga., 1894.....	11.1	14.	1.3	2.9
St. Louis, Mo., 1895.....	9.4	15.6	1.3	4.4
Average.....	10.4	16.	1.8	4.9

It will be seen that in the eight cities above named the proportion of deaths from consumption among the colored race, as compared with the total mortality, is more than 50 per cent. greater than that of the white population, while the death-rate per thousand from this disease is nearly three times as great. Whether this fearful mortality from consumption has reached its maximum of destructiveness among the colored population of the South, or whether it is still increasing, I am unable to say, as it is impossible to obtain reliable statistics for a long series of years from any considerable number of southern cities. In Charleston, S. C., the average number of deaths from consumption among the race, from 1865 to 1870, was 81; from 1875 to 1880, 183; from 1885 to 1890, 193; from 1890 to 1894, it was 182. In Memphis, the average for 1883 to 1886 was 129; for 1888 to 1890, it was 125; for 1891 to 1895, 136. It is quite likely that this reported increase is more apparent than real, as the population has also probably increased. There has been a great fluctuation in Nashville during the past twenty years, the lowest ascertained rate per thousand being about three in 1889, and the highest 6.6 in 1895. It is generally believed that those of pure African descent are less susceptible to consumption than of mixed blood; my observation confirms this view, but I prefer to wait for more definite information before making any positive statements on this point.

There are doubtless many causes contributing toward producing this excessive mortality and among the most important are: Ignorance concerning the laws of hygiene; unhealthy dwellings, often situated on damp and narrow alleys, reeking with filth; improper food, lacking in quantity and of poor quality; insufficient clothing and exposure in inclement weather; irregular habits and lack of proper amount of sleep; excessive use of intoxicating drinks and other vices; lack of medical attention and proper nursing.

As remedies for this alarming death-rate, I would suggest: Thorough instruction in all of the universities, colleges and normal schools devoted to the education of colored students, in practical hygiene, especially in the prevention and management of contagious disease. All teachers should be required to pass a rigid examination on this branch of study. It would be well if a law could be provided in all of the Southern States, like that recently enacted in Minnesota, requiring all school teachers to obtain a certificate that they are free from consumption. Public authority should prevent the use of dwellings unfit for human habitation. This should especially apply to dark basements and cellars; frequently the air throughout the entire house is rendered unhealthy by dampness proceeding from the cellar, and to this cause has been attributed the high death-rate from consumption in New England. Dwelling houses, school buildings and churches should be frequently examined by competent sanitary inspectors, possessing power to abate nuisances and oblige the owners to keep them in a healthy condition. The sale of adulterated and unhealthy food should be prohibited by law. Special attention should be paid to the quality of milk that is offered for sale, and no person should be permitted to sell milk unless the cows producing it should have been examined by a competent veterinary surgeon and pronounced free from tuberculosis, as it is now believed that the use of milk of cows suffering from this disease is a potent factor in producing consumption. It is probable that tuberculosis in cows is more common than is usually supposed; it is stated that some herds in the vicinity of New York are affected to the extent of 60 per cent; Dr. Pearson, of the Univer-

sity of Pennsylvania, states that 30 per cent. of all cattle slaughtered are tubercular. The use of alcoholic beverages, except as a medicine, should be prohibited. Those who are unable to procure proper medical attention should be provided with physicians at the public expense and hospitals for consumptive patients should be prepared for the reception of those who are affected with this disease. All cases of consumption should be promptly reported to the proper health officer, who should give the necessary instruction as to the best sanitary measures to be pursued, and after the death of the patient the premises ought to be properly disinfected, as is done in other contagious diseases.

COMMUNICATIONS.

SOME REMARKS ON PERFORATION OF THE NASAL SEPTUM.*

CARL SEILER, M.D., PHILADELPHIA.

Perforation of the nasal septum, and especially of its lower cartilaginous portion, is by no means so rare an occurrence as is generally inferred from the sparseness of literature on the subject, nor is it a lesion which is, as Bosworth thinks, of little account, giving rise to few, if any, annoying symptoms. On the contrary, such cases are quite numerous and the perforations, although unsuspected and easily overlooked at a cursory examination, are frequently the sole cause of the long train of symptoms known and recognized in a general way as nasal catarrh.

Statements in the text-books on general medicine and surgery, and even in the older special works on nasal diseases, have given rise to the impression that perforation of the septum of the nose is almost invariably caused by necrosis due to a general dyscrasia, and particularly to syphilis, and this particular lesion is looked upon by the majority of the general profession as pathognomonic of syphilis or struma. This may in many cases be true of perforation of the upper or bony portion of the septum, but syphilis or any other dyscrasia is but rarely the cause when the lower or cartilaginous plate alone is affected.

In this region, where perforations of various dimensions are most frequently met with, a variety of other causes than syphilis are at work—causes which are mostly local in character and which are what may be termed chronically traumatic in their action. I use this apparently paradoxical term to express a frequently-repeated and long-continued traumatism of so slight a malignancy that a single infliction of it would hardly be felt and its damage speedily repaired, but a continued and frequent repetition of its infliction produces by accumulation after irreparable damage.

Let us take as an illustration a case in which there is a slight localized depression on one side of the cartilaginous septum just above the columnar cartilage, which depression may be produced by continuous pressure of a hypertrophic condition of the lower end of the lower turbinated bone, or by a localized projection, or ecchondrosis of the septum itself, forming an apparent depression in the surface above it, or from some other cause, such cases being quite frequently met with. In such a condition we will find in the earlier stages a slight accumulation of mucus, hardened into a more or less dry scab or crust filling up this depression. This accumulation of mucus is left in the depression as in a sort of eddy, out of the course of the air current, and becomes dry and hard by being impregnated with dust particles

* Read before the Pennsylvania State Medical Society, May, 1896.

and by being desiccated by the air passing over it but not dislodging it in the act of nasal respiration.

Soon this scab becomes a source of irritation to the patient and instinctively he tries to remove it by either forcible blowing of the nose or by scratching with the finger-nail. If this scab has already become loosened at the upper edge (desquamation of ciliated epithelium always occurs in the direction of the ciliary motion in the nose from above downward), the forcible blowing will tear it loose and it will be blown out, but in this process epithelial cells not as yet ready to desquamate are also torn off and the mucous membrane thus becomes partially denuded of its natural protecting covering and an abrasion is the result.

If the scab is removed with the finger-nail a like lesion in a greater degree is the result, and a slight bleeding follows the expulsion of the scab, the dried blood then forming a more substantial basis for the speedy reformation of the scab. It can readily be seen that a frequent repetition at short intervals of even such a trifling loss of tissue must in the aggregate exceed natural repair and thus gradually a deepening of the depression of the septum follows with a final perforation of the cartilaginous plates, which, at first extremely small, gradually increase in extent as their scale is alternately formed and expelled.

The edges of this perforation are of course always denuded of epithelium and even of mucous membrane, and, as the hyaline cartilage of the nasal septum is nourished only by loops of vessels dipping into its matrix from the mucous membrane and not by a capillary anastomosing network, as in other tissues of the body, new cartilage cells can not be deposited from the denuded edges, and the process of necrosis goes on uninterruptedly.

If the inspired air is impregnated with acrid or caustic dust, as is the case, for instance, in factories where chromium salts are manufactured, the process of decay and perforation of the cartilaginous septum is accomplished in the same manner, but in an incredibly short time, and it has been observed that workmen in bichromate of potash works show perforation of the septum within a few days after entering the laboratories. This may be accounted for by the well-known softening action which chromic acid and its salts exert upon bone and cartilage, well known to the microscopist who utilizes it in preparing bone and cartilage for cutting sections.

Another frequent course of perforation of the cartilaginous septum is an excoriation or partial necrosis of the nasal mucous membrane, so frequently observed in typhoid fever and other febrile affections of a typhoid nature, as well as in nasal diphtheria, in the course of which diseases the patient "picks" the dried scabs unconsciously but continuously, thus scratching a hole through the septal plates, unless this is prevented by frequent cleansing of the anterior nasal cavities with a soothing alkaline solution throughout the course of the system's disease. In a few rare instances, abscess of Jacobson's organ, that rudimentary cavity which is situated between the thin cartilaginous plates forming the lower portion of the nasal septum as well as (particularly in children) the unsuspected presence of foreign bodies, such as shoe buttons, beans, pebbles, etc., have caused perforation of the nasal septum. In the latter cases the continuous pressure of the foreign body upon the septal mucous membrane produces localized necrosis, and it is this giving way of one of the confining walls which allows the foreign body to be expelled spontaneously, as I have had occasion to observe in one or two instances.

And, finally, unskillful or mistaken surgical interference for the removal of nasal obstructions often result in septal preparations, as when the septal plate is "button-holed" in an attempt at removal of an ecchondrosis, or when it is deliberately perforated with a shoemaker's punch for the cure of nasal obstruction due to deviation of the septum, an operation which was proposed a number of years ago and which is, unfortunately, still practiced by a number of surgeons in spite of its glaring irrationality and harmful after-effects.

The treatment must, of course, be based upon the peculiar pathologic, anatomic and physical conditions, in the first place, and upon the extent of the

lesion in the second; that is to say, if the perforation is not as yet complete; but when the conditions described for the production of the perforation are present, or if the perforation is as yet but a small pin hole, we can, with a degree of certainty, expect to prevent the localized necrosis of the cartilage altogether in the one case, or prevent its extension in the other by rational treatment, which must, of course, consist in intelligent and efficient removal of the various abnormal conditions; by topical applications, surgical interference when necessary, and by scrupulous cleansing of the nasal cavities with an unirritating, solvent, alkaline solution, so as to prevent the formation of the dry scabs and thus favor the reconstruction of the lost tissue with its natural epithelial covering.

If, however, the abnormal communication between the two anterior nasal cavities is established and the septal perforation is of considerable size, this prophylactic treatment is of no avail, because the mucous membrane cannot be coaxed to cover the denuded cartilage, especially at the upper margin of the perforation, nor can the necrosis be arrested by artificial covering of plastic lymph produced by cauterization, because, as stated, the nutrition of the cartilage is effected only by loops of blood-vessels slipping into the matrix of the cartilage from the perichondrium, and thus reproductive granulation tissue will not form beneath artificial coverings. In these cases there are but two methods available to repair the damage, and the most rational of these is a plastic operation, although the second, namely, the closing of after communication between the anterior nasal chambers by means of a hard rubber obdurator held in place by a set screw or clamp connecting the two plates of the obdurator, somewhat after the fashion of the modern patented sleeve-button, has in some cases been successfully employed.

Such a plastic operation necessitates the cutting out of a piece of one of the plates of the cartilaginous septum either above or below the perforation, large enough to cover it, and securing it in place after dividing the edges of the perforation, preferably by means of the galvano cautery knife with either plugs of wood or ivory, covered with aseptic spunk, or by means of delicate silk suturing through the whole thickness of the cartilaginous septum around the edges of the perforation.

This operation I have successfully performed in a number of cases and the results have been most satisfactory, especially when I have employed the latter method of securing the flap, because the mucus secreted by the nasal mucous membrane has free flow then, and acting as a perfect antiseptic, favors union by first intention, while when the plugs are used, suppuration may occur, and in one instance, under my observation, has resulted.

The objection to the obdurator has been, in my experience, that it does not favor healing of the denuded cartilage, but simply covers up the hole, and consequently does not prevent further necrosis of the septal cartilage; so that the lesion continues to increase in extent, necessitating a corresponding increase of the obdurator plates from time to time, and does not prevent the annoying and often offensive discharge from the nose.

Several tragic murders were committed in England last year by persons who had been previously confined in lunatic asylums. Such cases are far too frequent, says the *Medical Press and Circular*, and appear to give some sort of warrant for the accusation raised in certain quarters that the asylum authorities discharge their parents prematurely in order to keep up their percentage of cures. Although, of course, such a view cannot for a moment be countenanced, yet at the same time it must be confessed that lamentable errors of judgment appear to creep in with undue frequency. In any case, asylum superintendents generally would reassure the public and the profession if they issued a statement of the rigid precautions taken before letting loose upon the community patients who had at any time shown homicidal or suicidal tendencies.

A Philadelphia paper once announced the arrival of the Siamese twins in that city in the following manner: One of the Siamese twins arrived here on Monday last, accompained by his brother.

CURRENT LITERATURE CONDENSED.

The Late Heat-Wave in New York.[1]

The disastrous heat-wave that has lately swept with tremendous force over the North-eastern States of America has numbered its victims literally by hundreds. It has spared neither the higher nor the lower animals, neither man nor beast; all have alike succumbed beneath its merciless grip. It has stricken down citizens clothed in their every-day garb and engaged in their ordinary occupations. In fact, the suddenness with which it fell on an unprepared community to a great extent explains the heavy ensuing death-roll. In other places, where great waves of heat occur periodically, the inhabitants readily adapt their habits of life to the altered conditions. The temperature recorded during the late climax in New York, Boston and Chicago, ranged from 90 to 97 degrees Fahrenheit, an average that is frequently exceeded in Richmond, Charleston, Savannah and New Orleans. Yet, in spite of that state of affairs, not a single death from sunstroke has been reported south of the Potomac.

The risk of out-door exercise in excessively hot weather is abundantly illustrated in the extensive and interesting literature of heat apoplexy. Thus, in July, 1853, a body of 600 Belgian troops marched a distance of five leagues, and no less than 450 were affected by that malady. During the Crimean war, out of 12,000 Russian soldiers who started from Bucharest, not more than half reached their destination at Kimpine. In 1859, a French corps of 12,000 men, crossing the Illinois, left behind 2,000 disabled by sunstroke. New York has, in the past, suffered severely from the affection. In August, 1853, it was credited with 224 deaths from that cause; in 1863, with 135; in 1886, with 210; in July, 1868, with 833; while nearly 1,000 deaths occurred in 1872.

A remarkable contrast to the frequency of incidence along the Atlantic seaboard of North America is the comparative immunity of the Pacific coast. It is a fact that Californian miners and laborers at the western end of the Darien railway were scarcely affected. Moisture in the air is usually deemed an important determining factor. Gordon says: "It is the subject of common remark in India that one of the meteorological conditions under which sunstroke chiefly occurs is when the breeze for a time ceases, the sky becomes obscured by a film of dark, negatively-electrified clouds, and a sense of oppression hangs like a weight upon the mental, as well as the bodily energies." Nearly all the Anglo-Indian authorities are of opinion that sunstroke is commonest when the air is absolutely calm; but on the other hand, cases are usually common in Constantinople while the south wind is blowing. A similar observation has been made in Italy at the time of the Sirocco, and also in Egypt during the Kamsin.

The earliest medical reference to the disease is probably that of Cardanus, in 1543, but it was recognized long before that time. In 1097, according to Balderici, the Crusaders lost several hundreds daily from sunstroke. It is also recorded in history that in 1155 Barbarossi's expedition from Lombardy against Spoleto had to be given up because the troops were unable to withstand the burning heat of the Italian sky. Centuries before that, however, we find the pathetic story of the Shunamite woman. "And when the child was grown, it fell on a day that he went out to his father to the reapers. And said unto his father, 'My head, my head!' And he said to a lad, 'Carry him to his mother.' And when he had taken him and brought him to his mother, he sat on her knees till noon, and then died." This concise Bible narrative offers a graphic clinical description of the malady.

Returning to New York, it may be noted that the recent epidemic has brought into high relief the improved state of the city sanitary service. Every possible means was adopted by the authorities to lessen the sufferings and danger resulting from the intense heat. The public baths were made free to all comers day and night. The gates of

[1] Editorial in *The Medical Press.*

the municipal parks were not closed at night, so that hundreds of people were enabled to sleep out in the open air. Large quantities of ice were distributed in the poor quarters, and last, but not least, the streets were kept systematically flushed. There can be no doubt that the energetic carrying out of these measures did much to mitigate the burden of the grievous calamity by which the townsfolk were overtaken. A few years since, the sanitation of New York was in a most backward condition, but in the light of recent events it must be acknowledged that the present Board of Health has made vast strides in the work of progressive administration.

Serumtherapy and Lumbar Puncture.[2]

For one who reads European medical literature to any extent, it is not possible to resist the conviction that the serum mode of therapy is rapidly establishing itself as an enduring principle of wide application in therapeutics. During the past six months, all other forms of serumtherapy have been so overshadowed by the antitoxin treatment of diphtheria, that knowledge of them is much less universal than it otherwise would be.

The serum treatment of diseases produced by streptococci has been developed to a considerable extent on the European continent, and particularly in France, where its introduction was due largely to the labors of Marmorek, Charrin and Roger. In a case of hemorrhagic septicemia reported by Ballance and Abbott, in a recent number of the *British Medical Journal*, the infection was so severe that lymphangitis, adenitis, vomiting, chills, high temperature, scarlet, septic erythema, puffy face and eyes, and mental stupidity were noticed within the first thirty-six hours after the infection. At the end of the second day, the patient's condition became alarming; the temperature was nearly 105°, pulse 150; rash, brilliant red and hemorrhagic, mental hebetude, vomiting, bleeding from the nose and pharynx, and slight albuminuria were present. Sixty hours after infection, the first injection was given. Within six hours improvement set in, followed by rapid recovery.

The injections were made into the loin and abdominal wall, and after the first eight (of 3.5 c. cm. every four hours) had been given, the succeeding twenty were increased each to contain 7 c. cm. The writers suggest the possible use of the serum in fracture of the skull in which there is risk of suppurative meningitis, in acute necrosis, acute septicemia and pyemia, rapidly-spreading gangrene and cellulitis, erysipelas, general suppurative peritonitis, and in the septic complications of middle-ear disease. They believe that the proper way of administering it is to begin with moderately large doses, 20 c.cm., to give the injections frequently, and as soon as beneficial effects are manifest, to reduce the dose to about 7 c.cm.

The serum used was from the blood of asses. The ass receives during several months increasing injections of living virulent streptococci. The anti-streptococcic serum has, therefore, antimycotic rather than antitoxic powers. Tests applied to the serum after each injection showed a progressive increase of bactericidal properties. The fact that streptococci may remain in the blood of animals for several days after their infection, makes it imperative to remove all chance microbes by filtration through porcelain.

It is well known that the danger of death in scarlet fever is enhanced greatly by the suppurative complications that follow that disease. Baginsky, of Berlin, has put Marmorek's serum to the test in fifty-seven children affected with scarlatina. He says that it is so antipathic to the complications of this disease that it reduces the mortality from 30 to 40 per cent.

Josias (*Semaine Médicale*, May 20, 1896) has had a larger experience with the anti-streptococcic serum in scarlet fever. He injected forty-nine children in the first period of the disease, each with 5 c.cm. of serum obtained from sheep. With the exception of slight urticaria, no bad symptoms resulted. He also injected ninety-six children with horse serum in the second stage, with an average quantity of 10 c.cm., but some of the patients received as high as 90 c.cm. Complications resulted in twenty-nine of these cases. The mortality in cases

[2] Joseph Collins, M.D., in *Medical News*.

which used the sheep serum was only about one-half as great as in those in which no serum was used.

It must be remarked that the difference in mortality rates, which these writers speak of, may be accidental, for not infrequently much greater variations in the death-rate of epidemics of scarlet fever occur, even if the cases are allowed to take their course without particular treatment. If the serum treatment can be given without danger of any ulterior consequence, and if there are grounds for belief that it may prevent the suppurative complications and sequelæ of this disease, it deserves the fullest trial. Apparently, the only word of warning necessary is that great care be used in the preparation of the serum.

The diagnostic value of lumbar puncture, or of puncture of the subarachnoid space in the lumbar region, is now universally conceded. Weichselbaum has described a special microörganism which occurs in pairs and quadruplets, lying with their broad sides opposed, not lanceolate, and situated chiefly within the cells. On account of its location the name of *Meningococcus intracellularis* was given to this organism. Weichselbaum claimed that it was the cause of meningitis. This claim was contested, but it is now known that the pneumococcus, which for a time was considered the causative element in meningitis, produces a purulent form of that disease, while the intracellular coccus of Weichselbaum is the cause of epidemic cerebro-spinal meningitis. It is between these two forms of meningitis, particularly, that lumbar puncture may be utilized to make the diagnosis. If the fluid withdrawn contains the cocci of the one form or of the other, and if cultures made from it produce the respective diseases in susceptible animals, the diagnosis of the variety of meningitis will be made, and the prognosis confirmed, for in epidemic cerebrospinal meningitis, the prognosis is immeasurably better than in the purulent form.

Heubner (*Deut. med. Woch.*, July 2, 1896) was able, by means of an examination of fluid from the subarachnoid space, to establish just this distinction. The operation of tapping the subarachnoid space in the lumbar region is such a simple and inconsiderable one that it is well, perhaps, to remember that in some conditions, such as tumor or abscess of the cerebellum, it is not unattended by real danger, not to speak of the aggravation of the symptoms which it causes.

Is Surgery a Cure for Cancer?[3]

The opinion of Dr. Byrne is:—"As the average period of life in cancer of the uterus, when not operated on, is not less than two years, and often more, suffering has not been lessened, but aggravated, and life has not been prolonged but shortened in the vast majority of all cases thus far subjected to vaginal hysterectomy. The field for vaginal hysterectomy in its application to uterine cancer, if indeed there can be one at all, is an extremely narrow one."

Hysterectomy is largely employed in London, but there are no available statistics; individual methods of performing partial or complete hysterectomy for cancer have been described, but the actual benefit obtained is only lightly illustrated by a few selected cases. Many distinguished physicians are advocates of surgery in uterine cancer, but their writings do not contain the facts which might support their advocacy. However, a few results of hysterectomy in malignant disease were reported last winter which may serve to replace the missing data.

In seven cases, the average duration of life after the operation was fourteen months, and in three of my cases, the patient died within three months of the operation.

In view of these facts, the question arises: Is surgical interference a cure for cancer? The arguments advanced for the performance of hysterectomy are, I admit, of some force. The foul discharges and hemorrhages are for a variable period relieved, but there is a recurrence of the disease very soon.

With regard to cancer of the breast, an altogether different set of facts and arguments is met with. Sir Benjamin Brodie came to the conclusion, after having removed five or six hundred cancerous breasts, that he would never remove another without first laying before the patient the objection, which his

[3] Dr. E. T. Davies, *Liverpool Medico-Chirurgical Journal.*

experience has shown him to exist, to that operation—namely, that the practice tended rather to shorten life than otherwise.

Sir James Paget, maintained that cancer was in the blood before it was in the breast; that we must look to constitutional and hereditary tendencies. He spoke with very great assurance of the specific nature of cancer as being almost certainly due to a specific morbid material, micro-parasite or ptomaine, or to one or more of their products, and as being closely allied to other micro-parasitic diseases, such as tetanus, tuberculosis, diphtheria, ague, actinomycosis, syphilis, and others; and he maintained, therefore, that the study of cancer and its treatment must needs be experimental, and once the morbid material was found, it could be dealt with in the same way as other specific diseases.

I have known a number of operations which were no doubt perfectly justifiable, but I think that their inclusion in cancer statistics introduces confusion.

I have strong doubts of the value of surgery in cancer, and they have only grown stronger as opportunities for observation have increased. The habit of thought should be changed in the treatment of cancer. More work from the pathologist and from the bacteriologist should be looked for, and less from the surgeon.

However, the results attained by Sir Benjamin Brodie in his day are not to be compared without qualification with the results of recent operations under improved methods. The same may be said of other "well-known writers."

Pilocarpin in Uremia of Bright's Disease.[4]

The rapidly uniform and fatal action following the use of pilocarpin in cases, where apparently no contraindication for its administration existed, has incited me to raise my voice in protest against the use of this drug in the treatment of uremia, for it has proved itself, not alone in my hands but in those of others, an untrustworthy and dangerous drug. Not in the least do I desire to disparage its use in some ailments where it has proved itself extremely useful and a valuable addition to our materia medica; but in the conditions enumerated above, where it jeopardizes the life of the patient, I emphatically protest against its further use. I doubt not that similar experiences could be recorded by others, were it not for the reluctance of offering our failures for just criticism.

The loose statements of our text-books that this remedy may be employed with safety impress the reader that the drug may be resorted to with impunity. In Bright's disease, especially that form in which the circulatory appendages are involved, occurring generally in the senile state, we must reason that cardiac degeneration incapable of detection takes place, and if, for any reason, the use of pilocarpin may seem indicated, the drug should certainly be proscribed.

When I was interne at Charity Hospital the general routine treatment for uremia was hot-air baths and pilocarpin injections, and I recollect cardiac failure and pulmonary edema were frequent causes of death, coming on shortly after its administration. Why it is that pilocarpin can be given with impunity in some diseases and should prove so dangerous in others, as in nephritis, I am not prepared to say, save that the general invasion of the vascular system by pathological processes produces cardiac changes which impair its energy, making it unable to cope with the depressing effects of the poison given.

It has been established, and cannot be controverted, that pilocarpin is a marked cardiac depressant and a dangerous remedy to administer in uremia, that its sphere of usefulness is but a limited one, that it should be banished from our therapeusis of Bright's disease, and that its application should be relegated to another sphere.

Case of Fatal Infantile Jaundice from Congenital Narrowing of the Common Bile-Duct.[5]

The following are the notes of a case of interest from the condition of the common bile-duct causing obstruction to the passage of the bile.

Matilda Chisholm was brought to the out-patient department of the Dundee

[4] Dr. Proben in *New York Medical Journal.*

[5] Dr. J. A. C. Kynoch in *Edinburg Medical Journal.*

Royal Infirmary when two and a half months old, on account of persistent yellowness of the skin, which the mother stated had been noticed since birth. At first the yellowness was most marked on the chest and abdomen, but five weeks after birth the conjunctivæ were noticed to be also affected. The father, a millworker, always enjoyed good health, and denied having had any form of venereal disease. The mother, who has had two children, appeared to be healthy, has had no miscarriages, and except for a sore throat during her first pregnancy, at the fourth month, her health has always been good. The other child, a boy fourteen months old, is perfectly healthy, has had no symptoms suggestive of congenital syphilis; had jaundice for two or three days after birth.

During her second pregnancy the mother enjoyed good health; the child was born at full time, and her labor was uncomplicated. At birth the child was considered small, and from the first day the skin was noted to be very yellow. There was never any hemorrhage from the umbilicus nor from the bowels, mouth or nose. It was bottle-fed, and had occasional attacks of vomiting. There never were symptoms suggestive of congenital syphilis.

When seen for the first time it was noted to be very emaciated, and the skin had a yellow-green color the conjunctivæ being likewise affected. There was considerable distension of the abdomen, especially marked over the right side. On palpation the liver was felt to be enlarged, its lower edge sharp, and on percussion in the mammillary line the dullness extended from the fifth rib to midway between the costal margin and umbilicus. The spleen was not felt below the costal margins some days later when the attempt was made for the first time. Examination of thorax was negative. Gray powders, one-half grain twice daily, were prescribed (so as to keep it attending the Infirmary). It was seen twice a week during the three weeks it attended the Infirmary. There was never any improvement noted; the skin always appeared to become greener in appearance, although the mother stated that the intenseness of the jaundice varied. The emaciation was progressive, and during the last week of attendance there was noted marked redness and swelling of both eyelids, especially the left, with greenish-yellow discharge and a filmy appearance of both corneas, which became slightly opaque two days later. The stools from the day of birth were white and milky, and on several occasions I was able to satisfy myself of this putty-like color. The urine was dark, and stained the linen yellow. On examination it contained bile pigment; no albumin. Microscopic examination not made.

A *post-mortem* was made, and the abdominal organs removed. The thorax was not examined. The skin was noted to be of a greenish tinge; body very emaciated. On opening the abdomen the peritoneum appeared perfectly normal; there were no adhesions and no ascites.

Liver enlarged, 237 grams (= 8 oz.) Length of upper surface, $6\frac{1}{2}$ in.; length of lower surface, $5\frac{3}{4}$ in. Antero-posterior—Right lobe, $4\frac{1}{4}$ in.; left lobe, $3\frac{1}{4}$ in. Its edges were sharp, color olive green, consistence tough; fibrous bands of a yellow color on surface, which was somewhat irregular. Gall-bladder flaccid, and contained thin bile; capsule not thickened, and on squeezing a cut surface brownish fluid exuded. Both hepatic ducts appeared normal, likewise the cystic duct. The common duct immediately below the junction of the cystic and hepatic ducts appeared to be of normal caliber, but from this point it gradually became narrower, having a thread-like appearance in the lower part of its course. It ends in a well-marked papilla on which no orifice could at first be seen with the aid of a lens, but on pressing the gall-bladder bile passes easily into the upper part of the duct, the passage from this point downward into the duodenum being slower.

Spleen measured $2\frac{3}{4}$ in. longest diameter; $1\frac{3}{4}$ in. transverse diameter; weight, $\frac{3}{4}$ oz. Kidneys appeared normal, 14 grams. Intestines normal, and contained cream-colored mucus; no blood corpuscles. Microscopically, several sections examined appeared perfectly normal, in others there was slight biliary cirrhosis.

With regard to the health of the parents, syphilis can, I think, be ex-

cluded. The sore throat referred to appeared, on questioning the mother, to have been of the nature of an ordinary catarrh, and there were no other symptoms pointing to syphilis.

The other child appeared healthy, and the jaundice it is reported to have had was most probably the ordinary form of jaundice neonatorum.

The duration of life (3½ months) is longer in this than in the other published cases, which may be accounted for by the complete absence of hemorrhages.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Injections of Salts of Iron for Anemia.

Dr. Scipio Rocci (*Il. Policlinico*, May, 1896) after many years' study of the action of iron upon the blood, draws these conclusions:

1. The injection of salts of iron, if it can be continued for a long time, ameliorates the anemic state of health; nevertheless, it does not cure chlorosis nor anemia, when the cause of the anemia remains. Under the influence of iron it stops, or in case it is cured, one observes promptly a recidive. Clinical experience demonstrates that the iron treatment is not etiologic; it attacks the consequences of a pathologic process, but not the process itself.

2. The injections of salts of iron succeed by a double mechanism in ameliorating the anemic state of health; they excite hematopoietic organs and consequently provoke the presence of new elements in the blood, besides their own transformation to the principles contained in the blood.

3. The injections are indicated every time when anemia has existed a long time and after many other remedies showed their inefficiency. They are contra-indicated when they provoke gastro-intestinal troubles, symptoms of nephritis, fever or hemoptysis.

Salicylate Methyl in Rheumatism.

Dr. Combemale (*Bulletin Méd.*, 634, 1896) reports nine cases of rheumatism treated with salicylate methyl. Like Lannois and Linoissier, he used this remedy in whitewashing in doses of four to six grm. (3j–3jss) on the anterior surface of the thighs or loco dolenti. This medication acts on rheumatism like salicylic acid, from which it is derived. It promptly relieves the pain, beginning two hours after the application and lasting six or twelve hours. When used during three or four days, the pain is relieved for from eighteen to twenty-four hours. Also, the temperature falls, but only on the third day, and then the fever disappears completely and the swelling of the joints decreases. The drug must be continued for some days after the symptoms disappear. It is absorbed by the skin and can be found in the urine.

The nine patients treated in this manner had no visceral complication in the course of the disease and even the endocarditis entirely disappeared. The author believes that this remedy should be preferred to sodium salicylate or salicylic acid, which have a certain action on the stomach, and is, therefore, especially valuable for neurasthenics or dyspeptics.

The Magnet in Eye Injuries.

Dr. Hirschberg (*Mediz. Gemein.*, of Berlin) succeeded in taking out of the eyes small pieces of iron by means of a magnet. This procedure has been used by the author in 180 cases and always with great success. The small magnets are preferable to the large on account of the danger of injury to the eye by the latter.

*Translated for THE MEDICAL AND SURGICAL REPORTER by A. Gordon, M.D.

Treatment of Complications of the Menopause.

The menopause is frequently accompanied with some derangement of general health, which even when not serious is inconvenient, such as feeling of heat, profuse perspiration, vertigo, congestion of the head. All these can be explained by the atrophy of the ovaries, since similar troubles are observed in women on whom ovariotomy has been performed. Dr. L. Landau (*Berlin*, 1896) treats these with the ovaries of cows. Pastilles of ovaries are especially prepared; the total dose which can be taken for a course of treatment is 100 grammes. The medication can be suspended for a certain time and renewed afterwards.

Treatment of Lupus with Salicyl-Creosot Plaster.

There is no doubt that among all the methods of treating lupus the most efficacious is excision, but this treatment must be exceptional. In the most of cases a medical treatment must be tried. Dr. Dubrevilh and Bernard (*Monats. f. Pract. Dermat.*, Bd. xxii) recommend the plaster of salicylic acid and creosote introduced in therapeutics by Unna. The plaster is applied to the whole diseased surface and covered with cotton; this must be renewed every day. The lupus nodules are destroyed and the base of the lesion is covered with granulations. If some nodules remain, destroy them with any caustic like silver nitrate.

This treatment is less efficacious in lupus sclerosis, but excellent in superficial lupus. The author thinks that pyrogallic acid also gives very good results.

Meniere's-Disease Treated and Cured with Pilocarpin.

Dr. Lemariey (*Ann. des Mal. de l'oreille*, November, 1895) reports a case of a man aged twenty-nine, afflicted with otorrhea and having symptoms of tuberculosis. After breakfast the patient suddenly started to vomit, became deaf and had vertical vertigo, but did not lose consciousness. The vertigo remained several days and the murmur in the ears became very intense. After having found an ankylosis of the ossicles Dr. Lemairey began to treat the patient with pilocarpin. In the beginning he injected four milligrm. (gr. $\frac{1}{15}$) and increased the dose one milligrm. (gr. $\frac{1}{60}$) every two days. During the first eight days the vertigo decreased considerably. After ten days of treatment the vertigo disappeared, but came back again. Then the treatment was continued for a month and the patient was entirely freed from disagreeable symptoms.

It was late on Sunday night; I was sitting in my office alone. I became aware of a stillness, unusual for even that quiet hour. I turned to the old grandfather's clock in the corner of the room, an heirloom and highly prized, by the way. On opening the panel door in the case, I found the pendulum still swaying regularly from side to side, but not with its full range. The second hand on the face rocked to and fro with perfect regularity, but did not advance over its usual circular course. The great weights had sunken as far as the fully unwound cord would admit. I had neglected to wind the clock the night before, the accustomed time for performing that weekly duty, and the faithful old servant had exhausted—almost exhausted—the last vestige of force stored there more than a week before. The food material had been all used up. I thought, will the winding restore the swing of the pendulum to its full degree? Will it bring back the tick and movement of the works and hands? I tried it and waited. The pendulum and second hand continued their weak, purposeless movements, but they gained no power. They became even fainter. There was the force, ready to act, in the suspended weights—enough of it to run the machinery for eight days. The weak, dying patient had been fed to repletion, but nothing had been gained. I gave the pendulum a slight push; the familiar tick was heard, the oscillating hand advanced; the clock was off for a week's run. I had given a stimulus.—*Samuel Wolfe, M.D.*

"Medical science has made such progress," said the doctor, when speaking of his profession, "that it is almost impossible for anybody to be buried alive now." Then he wondered why everybody laughed.—*Boston Courier.*

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, OCTOBER 3, 1896.

EDITORIAL.

THE ADVERTISING PAGES.

Even a cursory examination of medical periodicals reveals decided differences in the conception of the importance of the advertising pages. At one extreme is the journal which takes pains to ignore and even may condemn the articles lauded in its own pages. Its ambition, evidently, is to be regarded a periodical of medical science pure and simple, independent of and indifferent to the support of business enterprises however closely allied to the science it promotes. In this conception the fact is lost sight of that the progress of medical science is to a very large extent based upon material products.

At the other extreme is the publication of quantities of advertising matter bound together and labeled a medical magazine, which has just enough scientific reading matter scattered through its pages to secure admission to the mails and thus obtain circulation. In such journals the editorial mind dwells in a realm of non-officinal preparations. "Dear Mr. Editor: I have a little patient who bruised his foot on a stone. All efforts to cure him have failed so far. Will some brother physician please suggest a plan of treatment? I consider your journal the best published; could not get along without it. Yours,

etc.''—writes some anxious subscriber. The Editor, after mature deliberation, promulgates advice somewhat as follows: "The best treatment for the condition which you mention is to cover the part with Salvation Comp. and then apply one of ———'s improved automatic ventilating splints, padding it well with ——— & Co.'s antiseptic wooline. The ingenuity displayed in avoiding all mention of standard drugs and galenical preparations in these answers to correspondents is, to say the least, notable.

The REPORTER does not regard its advertising pages as a blemish. Nor is their continuance a confession of mercenary motives. It believes that the advertisement of a progressive and honest drug-house is medical news and should be read as such. It believes that it is just as necessary for a physician to know where he can obtain a certain drug, and how it is prepared and placed on the market, as it is for him to know its abstract properties and theoretical usefulness.

A magazine padded with advertisements as a fat man is with adipose tissue, benefits neither its readers nor the advertisers. Undue sacrifice is made of space that ought to be devoted to reading matter. On the other hand, the advertiser is defrauded of the acquaintance he seeks with the subscribers, since few will have the patience to wade through the many leaves of the advertising supplement. The REPORTER'S plan, therefore, from consideration of the rights both of physicians and of advertisers, is to limit its contracts to a comparatively small number, and to responsible and reputable business houses.

The REPORTER must, however, disclaim any personal responsibility for the advertisements issued in its pages. It endeavors to deal only with reliable firms, but it cannot go so far as to endorse every claim made in the attempt to advance commercial interests. Neither is it possible for it to experiment with and vouch for the therapeutic action of all drugs presented to the attention of its readers. It is only fair to remember that the dealer in drugs and instruments is a business man rather than a pharmacologist, therapeutist or surgeon, and that, however conscientious he may be, he is liable to make mistakes. We recall one drug house which went to great pains and expense to bring into prominence a certain chemical. This was tried and found wanting. The following year, agents were instructed to call attention to the failure, and to warn physicians against putting too great confidence in the drug. But one can scarcely expect that all will carry business honor to the same degree of altruism.

Readers need have no fear that the editorial staff of the REPORTER will forget standard pharmacopœial articles, or prostitute the journal by sinking it to the level of a "sneak" advertising medium. At the same time there should be the same fairness in dealing with manufacturers as with one's medical brethren. If an idea in therapeusis or diagnosis is borrowed, it is considered no more than courteous and honest to give credit for it until long use has made it common property. If a manufacturer displays equal ingenuity in perfecting a mechanical appliance, or in inventing a new form of capsule or suppository, or in rendering reliable and of uniform strength a drug preparation which formerly varied with each manipulation, we believe that it is affectation and not true dignity to ignore the brains and energy that have effected the improvement.

ABSTRACTS.

DIAGNOSIS OF PREGNANCY BY THE CHANGES IN THE MICROSCOPIC APPEARANCE OF THE URINARY PHOSPHATES.*

The two or three universally-admitted positive signs of pregnancy are not available until the fourth or fifth month; hence any presumptive sign before this period is entitled to our investigation. From time immemorial the urine has been scrutinized for some indication of the pregnant state. The older authors taught that the presence of kyestein was diagnostic of this condition—a belief which still finds credence among certain laymen. Parvin says: "The urine may be examined as to the presence of kyestein or as to the lessened quantity of its solid constituents, but such examination is of scientific rather than of practical value. Palmer says: "Kyestein, sometimes present in pregnant women, is a protein substance, consisting of triple phosphates, fungi, and infusoria, that form like a flocculent cloud in the urine kept standing for a few days at a temperature of 70° F. It occurs in the urine from the eighth to the thirty-second week of pregnancy, then disappears. It has practically no diagnostic value, as it is found in the urine of non-pregnant women, and at times in that of men." This represents the teaching with reference to kyestein at the present day.

I am not aware that any modern textbook assigns any importance to the value of the urinary constituents in the diagnosis of pregnancy. Dr. William B. Gray, of Richmond, in the *Virginia Medical Monthly*, of March, 1887, stated that he could positively diagnose pregnancy within twenty days after conception by certain changes in the microscopic appearance of the urinary phosphates. He says: "The normal triple phosphate is more or less of a stellate figure, and markedly feathery. Sometimes the stella is segmented, and one leaflet stands alone to itself. Whether we see it in bold relief as a star or dismembered as a solitary leaflet of the same, the feathery character is always to be remarked on both sides of the center fiber of each leaflet. To know and thoroughly understand this will properly prepare us for the better appreciation and comprehension of the abnormal phosphate. Now, as soon as conception occurs, or within twenty days thereafter certainly, the feathery portion of the stella or segment thereof begins to disintegrate. This decay, so to speak, may progress from the apex toward the base of the crystal, or may declare itself by destroying progressively the feathery contribution of one-half the leaflet, the center fiber of the same determining and defining its boundaries. If a stella is found in comparative integrity, it will be seen shrunken and distorted, as a tender plant withdrawn from its bed in the earth and exposed to the heat and wilt of the unfriendly sunshine. Past the middle of the seventh month the phosphates begin somewhat to approximate their pristine form and general character, and at the *accouchement* can scarcely be differentiated from the normal. It is likewise true that, when the fetus perishes during the gestation, the phosphates at once recover their normal character in all respects."

His directions for preparing the urine for examination are as follows: Take about one inch and a quarter of the suspected urine in a small test-tube, and add about one-third as much of Tyson's magnesian fluid as there is of urine. This will throw down the triple phosphates in fifteen or twenty minutes, and furnish the necessary material for microscopic examination. Tyson's fluid is composed of one part each of the muriate of ammonia, aqua ammonia, and sulphate of magnesia, and eight parts of distilled water.

I have now studied about seventy-

*William E. Parke, M.D., Philadelphia, before the Philadelphia Obstetrical Society, June 4, 1896.

five specimens of urine of women known or thought to be pregnant. Many of them were seen in dispensary practice, and, as is so often the case in this class of practice, they disappeared after one or two visits, and their subsequent history was not learned, so that this number includes some doubtful cases. I believe, however, from my study of these specimens, that the changes pointed out by Dr. Gray deserve to be ranked as a presumptive sign of pregnancy. I am convinced, also, that the earlier cases afford more marked changes than the advanced ones, and herein lies the most valuable features of this sign. In one case, examined at the sixth week of pregnancy, the changes referred to were absolutely characteristic, and subsequent developments warranted the diagnosis. In about ninety per cent. of cases examined within the first two months of pregnancy changes more or less characteristic were noted. Specimens from the same patient at short intervals were not equally characteristic; advanced cases of pregnancy—*i. e.*, those beyond eight months—showed little or no change in the phosphates.

I have not found a specimen from the non-pregnant subject which showed the characteristic changes well marked. On the other hand, I have never, I think, examined a specimen where a fragmentary crystal or stem could not be found in some part of the slide. In making the diagnosis, therefore, it will not do to depend upon a few imperfect crystals and stems scattered throughout a field of well-formed crystals, but rather must we depend upon the generally shrunken appearance of the bulk of the crystals, together with the fragmentary forms. And I would especially emphasize the importance of the somewhat beaded or jointed appearance of the shaft of the featherlike crystals. There are also many quite perfect crystals to be found in a pregnant specimen. It is evident, therefore, that we cannot base a diagnosis of pregnancy on the mere presence of a distorted crystal, as we would tuberculosis upon the presence of a tubercle bacillus, or malaria on the presence of the plasmodium. It involves a question of judgment and experience to decide as to the number and character of the abnormal crystals. I have not acquired the same confidence in diagnosing pregnancy by the changes referred to as the author of this method, but believe that when present they form valuable corroborative evidence of the condition. The changes, however, are not always well enough marked to give me confidence in the diagnosis. A larger experience may increase my skill and confidence.

When conception occurs the triple phosphates in the urine change in form. They lose their feathery appearance, the change beginning at the tip and progressing toward the base. One side only may be affected, or both, leaving only the shaft and perhaps a few fragments adhering. The shaft assumes a beaded or jointed appearance. These changes commence within twenty days after conception, and are most marked in the early months and are almost absent in the later months. When the death of the fetus occurs, the phosphates resume their normal appearance. This observation I have not had the opportunity of confirming.

Conclusions.—1. The change in the urinary phosphates pointed out by Dr. Gray occurs in a very large precentage of pregnant women.

2. This change is not equally pronounced in the urine at the same period of gestation in different women nor at consecutive examinations of the urine of the same woman.

3. When recognized it forms a strongly presumptive evidence of pregnancy.

4. This sign is recognizable very early. (Dr. Gray, in a personal letter to me, states that he has made many diagnoses as early as ten days after conception.) It is therefore of the greatest value when other signs are of the least value, or not present at all.

5. A diagnosis of probable pregnancy can be made without a physical examination or without exciting the suspicion of the patient.

One Cow's Milk.

"You must let the baby have one cow's milk to drink every day," said the doctor. "Very well, if you say so, doctor," said the perplexed young mother, "but I really don't see how he is going to hold it all."—*Indianapolis Journal.*

ENCAPSULED TUBERCULAR TUMOR OF THE BRAIN; CESSATION OF UNILATERAL CONVULSIONS CAUSED BY THE GROWTH.*

The following case shows that a tubercular tumor, which has given rise to well-marked symptoms, may become encapsuled, that the symptoms caused by the growth may almost entirely disappear, and that, *as far as the encapsuled growth is concerned*, the patient may be considered partially cured.

In the lungs, old healed tubercular nodules are not frequently met with post mortem, and in this case it would be equally correct to speak of a healed tubercular nodule in the cerebrum, though at a later date the patient died of tubercular disease elsewhere.

During life the man was an in-patient at the Manchester Royal Infirmary, under the care of the late Dr. Ross. The following are the notes which I took whilst the patient was in the Royal Infirmary:—

Anthony T., aged twenty-seven, admitted into the hospital June 19, 1890. Four years before admission the patient began to suffer from epileptiform fits. Each attack commenced with a peculiar sensation in the left side of the face; then this sensation was felt in the left arm, and afterwards in the leg. Consciousness was lost during the attack, and the tongue was frequently bitten. His friends told him that convulsive movements occurred during the fits, but *were limited to the left side.* The attacks were, therefore, unilateral, or Jacksonian epileptiform fits. After the patient recovered consciousness he generally found the left side paralyzed, and the paralysis usually persisted for about one hour and then disappeared. The fits were frequent at first, and the vision became gradually impaired, and for a long time the patient was unable to follow his employment. At the end of eighteen months the fits gradually became less and less frequent, the vision improved, and the patient returned to his work, but there was a very slight loss of power on the left side.

About six months before admission to the hospital he first noticed a little unsteadiness in walking. This became well marked about four months later, and then vomiting became a troublesome symptom.

Vision again became much impaired three months previous to admission. There had been no affection of the bladder. The patient had taken alcohol in excess until eight months ago. There was no history of syphilis or of ear disease.

On admission to the hospital, June 19, 1890, the patient complained of severe pain in the head and loss of sight. He was unable to sit up in bed and unable to stand or walk without assistance. When well supported he was able to walk a little, but was ataxic, and there was a tendency to fall backwards and to the left.

He was badly nourished, and the evening temperature reached 102° F. On showing the teeth, the right angle of the mouth was retracted slightly more than the left, and the right naso-labial fold was a little better marked than the left. There was no affection of the upper facial muscles. The tongue deviated slightly to the left when protruded. All the movements of the limbs could be performed quite well, but those of the left arm and leg were not quite so powerful as those of the right. The knee-jerk and wrist-jerk were greater on the left side than on the right. There was a slight ankle clonus (but not sustained) on the left side. Both plantar reflexes were present. There was slight rigidity to passive movement in the left leg.

Sensation.—The head and point of a pin were felt, localized, and differentiated and quite well on both sides of the face and on both arms and legs. The muscular sense was not offected.

The smell of champhor was recognized at each nostril. There was no paralysis of the ocular muscles. The left pupil was larger than the right; both reacted to light. Vision was greatly impaired, and the patient was unable to count fingers held six inches in front of the eyes.

On opthalmoscopic examination very marked double optic neuritis was found.

Hearing was fairly good; the tympanic membranes were normal.

The circulatory system was normal.

*R. T. Williamson, M.D., in Medical Chronicle.

At the apex of the right lung, anteriorly, a few subcrepitant râles were heard. The urine was acid, sp. gr. 1020, no albumen, no sugar. The bladder and rectum were not affected.

Soon after admission I found that the expectoration contained numerous tubercle bacilli. At first the lung symptoms and signs were very slight, but soon the cough became very troublesome, and the patient much worse. On July 1, examination of the lungs revealed dullness at the right apex and submucous râles. In the fourth space on the right side there was also dulness, and submucous râles were heard. The inspiratory sound was very harsh, but the breathing was not truly bronchial.

The patient rapidly sank, and died on July 17, 1890.

Autopsy.—Body greatly emaciated. Brain: Left lobe of cerebellum adherent to the dura mater. Basal ganglia and base of brain normal. The lateral and third ventricles distended with clear serous fluid. In the white matter of the right cerebral hemisphere, just beneath the lower third of the right ascending frontal convolution, was a yellowish, oval, moderately firm caseous tubercular nodule. Its antero-posterior diameter was half an inch; transverse diameter (right to left), $\frac{7}{8}$ in.; vertical diameter, $\frac{9}{16}$ in. It extended to a point only $\frac{1}{8}$ in. below the surface of ascending frontal convolution, and therefore at this spot just involved the grey matter. The nodule was surrounded by a very dense firm fibrous capsule tissue of considerable thickness. Microscopically, the nodule was found to consist of caseous material, and the capsule of a very thick fibrous tissue. In the outer half of the left lobe of the cerebellum was a caseous tubercular mass, the size of a small pigeon's egg. The mass was softened in the centre, and was not surrounded by any fibrous capsule. The rest of the brain was normal. Chest.—Tubercular consolidation at the apex of the left lung. The rest of the left upper lobe was studded with miliary tubercles; the lower lobe was also studded with tubercles. Right lung adherent to the pleura at all parts, and almost completely consolidated. Heart normal. Well-marked signs of tubercular peritonitis. Liver, spleen, and stomach presented no changes of importance. Numerous tubercular ulcerations in the mucous membrane of the small intestine.

In the case above recorded, the attacks of Jacksonian epilepsy, at the early period of the illness, were evidently caused by the tubercular mass in the motor region of the right cerebral hemisphere. The fits ceased, and the patient improved so much that he was able to return to his work, and the autopsy (made four years after the onset of the fits) showed that the tubercular mass had become encapsuled and practically quiescent. Unfortunately, however, at a later date, a second tubercular mass had developed in the cerebellum and also tubercular disease in the lungs.

WHAT IS HYPNOTISM?

Dr. J. Milne Bramwell read a paper entitled "What is Hypnotism?" at the recent meeting of the British Medical Association. He commenced by giving a short account of the mesmerists and the controversy between them and James Braid. According to the former, mesmerism was a physical power possessed not only by man, but also by magnets and other inanimate objects; according to the latter, the phenomena were purely subjective and resulted from changes in the nervous system, not of the operator, but of the subject. At first Braid's explanation of the phenomena was a purely physical one, and since his day various attempts have been made to explain hypnosis from the same standpoint. Dr. Bramwell gave an account of three of these:

1. The Salpetriere theory, which explained hypnotic phenomena by the assumption of morbid nervous condi tion. This position has been rendered untenable, since very extended statistics have shown that 95 per cent. of mankind at large can be hypnotized and that the most difficult to influence are the hys-

terical and ill-balanced. Many of the errors of the mesmerists in reference to metals and magnets have been revived by this school and apparently from the same cause—viz., failure to recognize the influence of mental impressions during physical experiments.

2. Heidenhain's theory, which explains the phenomena by a cerebral inhibition, and entirely depends upon the assumption that hypnotic acts are performed unconsciously. The experimental demonstration of the conscious nature of hypnotic acts robs this theory of all value.

3. The theory of Mr. Hart, which explains the phenomena by means of cerebral anemia. There are two fatal objections to this view: (1) It has been experimentally proved that cerebral anemia is absent during hypnosis; and (2) changes in the blood-supply of the brain are not the cause, but the result, of changes in the activity of the nervous matter.

Braid's latter theories explained the phenomena entirely from a psychical standpoint. He considered the condition essentially one of mono-ideism. The view was adopted by Professor John Hughes Bennett in 1851, and explained physiologically by the assumption of a functional disturbance in the "fibres of association," with resulting suspension of the connection between the ganglion cells of the cerebral cortex. Psychologically, he explained it by "dominant ideas." A suggested idea acquired undue prominence because, owing to the disconnection between the cerebral ganglion cells, it was unattended by its usual swarm of subsidiary ideas and lacked their controlling influence. The genesis of ideas was not interfered with, only their voluntary synthesis.

At a much later date, this psychological explanation was adopted by Professor Bernheim. His views differ, however, from those of Braid and Bennett in one important point. The latter pre-supposed a definite change in the nervous system as essential for the production of hypnotic phenomena, the former thinks that the only difference between the hypnotized and the normal subject consists in the increased suggestibility of the former and finds in "suggestion" an explanation of all hypnotic phenomena. Hypnotic phenomena, however, differ frequently in kind as well as in degree from those of the normal state, and the subjects who are most suggestible in hypnosis are generally those who had constantly resisted suggestion in the normal condition. Dr. Bramwell referred at length to Professor Bernheim's view that crime could be successfully suggested to the hypnotized subject, and pointed out that this belief rested upon laboratory experiment and the assumption that the subject was passing through a mental condition similar to that of the operator. A simple and important test had been omitted — namely, that of questioning the subject in hypnosis as to his own mental state. When this was done, it was invariably found that the subject fully recognized the imaginary and experimental nature of the suggested crime. Dr. Bramwell held that neither the intelligence nor the volition was necessarily interfered with in hypnosis and that the subjects, instead of being ready to commit crimes, in reality developed increased moral sensitiveness. Dr. Bramwell pointed out that there existed a powerful argument against the explanation of hypnosis by means of mono-ideism or dominant ideas—namely, that a wide range of different phenomena could be simultaneously manifested by the hypnotized subject.

The most recent explanation of hypnotism—and apparently the most satisfactory—was to be found in the supposed tapping of some sub-conscious state and the evoking of a secondary personality. According to this view, the hypnotized subject, instead of being a stunted and maimed normal individual, in reality possessed far-reaching powers over his own organism which were not paralleled in the walking state. The researches of Azam and others have demonstrated the existence of alternating personalities without the intervention of hypnosis, while recent hypnotic observations not only show the existence of the alternating personalities, but demonstrate also that they co-exist and communicate with each other. Before this theory can be accepted as a complete explanation of hypnotic phenomena, an answer must be given to two questions: (1) What is

the connection between hypnotic methods and the production of the sub-conscious state? and (2) How did the secondary personality acquire its rich physical and mental endowments? To the first question, according to Dr. Bramwell, nothing approaching a satisfactory reply has yet been given. An attempt had been made to explain the latter by the assumption that the secondary personality was able to voluntarily control functions which in some lower ancestral form had been performed consciously, but were now, as the result of development, performed automatically. Dr. Bramwell pointed out that there were many objections to this explanation, chiefly in regard to the intellectual phenomena of hypnosis. The increased intelligence and higher refinement of the hypnotized subject could hardly be explained by the assumption that the lost power animal type had been evoked. —*Charlotte Med. Jour.*

LIBRARY TABLE.

INFANTILE MORTALITY DURING CHILDBIRTH AND ITS PREVENTION.—Wm. Furness Jenks Prize Essay of the College of Physicians of Philadelphia. By A. Brothers, B. S., M.D., visiting Gynecologist to Beth Israel Hospital, New York; Attending Gynecologist to the New York Clinic for Diseases of Women; Instructor in Operative Gynecology at the New York Post-Graduate Medical School and Hospital; Fellow of the Academy of Medicine, etc. Pp. viii—179. Philadelphia: P. Blakiston, Son & Co., 1896.

The object of this essay has been to give a careful review of the causes which may endanger the life of the child previous to the completion of gestation, during the critical hours of labor, and in the earliest period of infant life and to attract the reader with the most recent treatment for the prevention of the high fetal mortality which he shows us exists.

The first chapter is an introductory one, consisting of little over two pages and deals with the obstetrician himself, showing that outside of maternities the great bulk of obstetrical work is done by ignorant midwives and untrained physicians.

We thoroughly agree with the author in his plea for a higher education in pediatrics, a branch almost entirely ignored in many of our schools of medicine.

Chapter II deals with the statistics of infant mortality, which to say the least, is very uncomplete.

Chapter III is devoted to post-mortem studies of the newly born, and here a table containing the records of forty-seven dissections upon the neonatus, which the author handles well, considering the very small amount of material at his disposal. It is indeed a shameful state of affairs that so few post-mortems are held upon infants of under one year of age.

The fourth chapter gives the causes of infantile mortality; the fifth and sixth death due to maternal causes preceding labor. The seventh to twentieth chapters infantile mortality due to maternal causes during labor. The twentieth and twenty-first chapters infantile mortality due to fetal causes preceding labor. The twenty-second to twenty-ninth infantile mortality during labor. The twenty-ninth to thirty-eighth infantile mortality due to fetal causes directly following labor. The thirty-eighth chapter is devoted to the consideration of the prophylaxis and general hints upon infantile mortality.

We do not agree with the author in the induction of labor in all cases where the gestation has advanced to over 280 days. Neither can we say with him that in all cases of asphyxia neonatorum the cord should be immediately tied. We believe that in cases of so-called "blue asphyxia" some blood should be allowed to escape from the cord before tying. We regret that the author has never seen the insufflaton of Ribimont-Dessaigne used, and express the hope that in the near future he may use it and give to the profession his opinion of the relative worth of this method of treatment in all cases of asphyxia.

As a whole the book is well written and fulfils the author's promise in his introductory, namely, to give a "bird's-eye-view" of the subject, which it does in a most pleasing manner.

C. H. R.

We have received copies of the *Ladies' Home Companion*, published in Springfield, Ohio. The magazine is an attractive monthly fulfilling the expectations suggested by its name.

The American Home Magazine, of Franklin, Ohio, by some oversight, we presume, has the same contents for both the May and June covers. The opening article is on Fort Ancient, which is being boomed as a resort for more modern people than its original tenants, the Mound Builders. Although the magazine contains several interesting articles, our attention is aroused by a business notice which may explain the amateurish tone of part of the contents. The magazine is capitalized in fifty-dollar shares, each contributor being required to be a share-holder. Desirable contributions are accepted in lieu of the last twenty-five dollars due on each share. We are led to infer that authorship, like medicine, is "a noble profession but a poor trade", but we doubt the wisdom of making so frank admission of it.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX FOR 1896.—728 octavo pages. Illustrated. $2.75. E. B. Treat, publisher.

For the price, this work is one of the best books of its kind published. It gives a synopsis of the year's medical literature and is a neat and compact reference book, and, as such, deserves its accustomed welcome.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA.—By Joseph McFarland, M.D. 113 Illustrations. 345 octavo pages.

In the preface the author states his aim "to describe only such bacteria as can be proven pathogenic by the lesions or toxins which they engender, and, while considering them, to mention as fully as is necessary the species with which they may be confounded." In carrying out this intention the author reviews the whole subject, discussing the biology of bacteria, immunity and susceptibility, methods of observation, cultivation and culture media, sterilization and disinfection, experimentation upon animals, and bacteriologic examination of air, water, and soil. The specific diseases and their bacteria are next considered, greater or less space being given to each individual according to the thoroughness with which it has been studied and, consequently, the known peculiarities to be mentioned. The reader will find this an interesting and instructive book, but will probably be disappointed at the absence of one or two micro-organisms generally considered pathogenic, but which are excluded for reasons explained in the preface.

FEAR.—By Angelo Mosso. A translation, by E. Lough and F. Kiesom, from the fifth Italian edition. Longmans, Green & Co., publishers.

The book is in one octavo volume, neatly bound in cloth. The first part of the work is devoted to the circulation as affected by emotions, and by external impressions of various kinds. The succeeding chapters discuss pallor and blushing, trembling, the expression of the face, phenomena of fear, dreams, maladies produced by fear, hereditary transmissions, etc.

DIET FOR THE SICK.—Contributed by Miss E. Hibbard, Principal of Nurses' Training School, Grace Hospital, Detroit, and Mrs. Emma Drant, Matron of Michigan College of Medicine Hospital, Detroit. Second Edition, Enlarged. Limp Cloth, 16mo., 100 pages. Price 25 Cents, Postpaid. Detroit, Mich.: The Illustrated Medical Journal Co., 1896.

In this little book there is, besides the useful formula for "Sick Dishes," foods and cooling drinks for convalescents, quite complete Diet Tables for use in Anemia, Bright's Disease, Calculus, Cancer, Chlorosis, Cholera Infantum, Constipation, Consumption, Diabetes, Diarrhœa, Dyspepsia, Fevers, Gout, Nervous Affections, Obesity, Phthisis, Rheumatism, Uterine Fibroids. It also gives various nutritive enemas. The physician can use it to advantage in explaining his orders for suitable dishes for his patient, leaving the book with the nurse.

PRACTICAL POINTS IN NURSING.—Emily A. Stoney. Cloth, 456 pages, Illustrated. Publisher, W. B. Saunders, Philadelphia. Price $2.00.

The trained nurse and those who work in hospitals or where every aid is given to their work have long been favored with an abundance of literature relating to their calling, while the nurse, who has to contend with the imperfect appliances of the home and who is confronted with cases of grave necessity without the advantage of preliminary training, has been comparatively neglected. To such this

manual will be invaluable. Practical and explicit directions as to the best manner in which to meet the various emergencies of medical and surgical cases when far from professional aid are given, the characters and points of distinction of the different diseases, possible complications and directions how to improvise everything ordinarily needed in the illness of the patient, often by the simplest means, plus a knowledge of how to apply them.

Especially valuable are the chapters on accidents and emergencies, including bandaging, and upon gynecological cases, though the tenor seems to be of a nature to somewhat encourage a nurse to act too much upon her own responsibility, despite injunctions to refer to the attending physician. The glossary, dose-list, etc., in the appendix are of value.

CLINICAL DIAGNOSIS.—A Practical Handbook of Chemical and Microsopical Methods. W. G. Aitchison Robertson, M.D., F.R.C.P.E., F.R.S.E. 366 pages, Cloth. London, Scientific Press, Ltd.: Philadelphia, P. Blakiston & Sons.

This little hand-book seems likely to be an invaluable aid to the practitioner whose time is limited. Rapid, easy and reliable methods are given, especially those which do not require elaborate apparatus, and theories, which so impair the usefulness of the average book of this nature, are not indulged in. The tabulation of the diseases in which a divergence from the normal may be looked for is a feature of value and the indexing is full. The volume should command a ready sale among both physicians and students.

THE MULTUM IN PARVO REFERENCE AND DOSE BOOK.—By C. Henri Leonard, M.A., M.D., Professor of the Medical and Surgical Diseases of Women, Detroit College of Medicine. Flexible leather, 143 pages. Price 75 Cents. Detroit, 1896: The Illustrated Medical Journal Co., Publishers.

This is a recent edition of the Dose Book, of which the title page informs us some 40,000 copies have been issued. The present edition is printed on very thin paper, and is bound in red leather, round corners, so as to make it specially light and handy for the pocket; the weight is not two and a half ounces. Besides the doses of some 3,500 preparations being given, it has numerous tables, such as the solubility of chemicals, pronunciation of medical proper names, poisons and their antidotes, incompatibles, tests for urinary deposits, abbreviations, table of fees, etc. It will be found a handy pocket companion.

PERISCOPE.

MEDICINE.

Diabetes Mellitus in Married People and the Transmission of Diabetes.

Amongst 770 cases of diabetes that have come under the author's observation, there have been nine instances of man and wife suffering from the disease. This proportion—1.19 per cent.—corresponds pretty closely with the statistics of Oppler and Kulz (ten in 900 cases). The following are brief notes of the nine instances, reported by Senator (*Berl. klin. Wochenschrift*, July 27, 1896), of married couples suffering from the disease:

1. The husband has suffered from diabetes nineteen years. A brother died of diabetes. The wife has suffered from diabetes for six years. Her mother died of diabetes and pneumonia. A brother and sister still suffer from the disease.

2. The husband has suffered from diabetes for twelve years. The disease followed a fright. The wife has suffered from the disease for three or four years. A father and brother are diabetic.

3. The husband has suffered for many years from gout, more recently from diabetes also. The wife died of diabetes.

4. The wife has had much anxiety and mental worry since the death of her husband. The husband died of diabetes five or six years before the wife first suffered from the disease.

5. Wife suffered from diabetes some years after the death of the husband from the same disease.

6. The husband died of diabetes in 1891. The disease was first discovered in the wife in 1893. One of her brothers had also died of diabetes.

7. The husband had died of diabetes sixteen years before the disease was detected in the wife. The latter had had much anxiety since the death of her husband.

8. The husband suffers from a mild form of diabetes. The wife suffers from diabetes with pruritus vulvæ. A sister is also diabetic.

9. The husband suffers from diabetes, emphysema and bronchitis. No family history of diabetes. The wife has suffered from diabetes for sixteen years.

But Senator points out that when all the

cases are excluded in which there is a family history of the disease, or a history of any of the well-known etiologic antecedents, the cases remaining (of diabetes in man and wife) are so few that it seems probable that the occurrence is accidental or that both man and wife have been subjected to the same antecedents.

Spinal Cord Affections in Diabetes Mellitus.

Kalmus (*Zeitschrift f. klin. Medicin*) refers to the few cases previously reported in medical literature, and then records two additional cases of diabetes, in which changes were found in the spinal cord.

In the first case, on naked eye examination of the spinal cord, after hardening in Müller's fluid, degeneration was found in the posterior columns. This was most marked in the cervical and lumbar enlargements. In the lower cervical and dorsal regions, the lesion was confined to Goll's columns; above and below, it extended laterally into Burdach's columns; The sacral region was unaffected. In the lower dorsal region, the right posterior column was distinctly more markedly affected.

In the second case, degeneration of the posterior columns was also found. It was limited to Goll's columns in the upper cervical region. In the lower cervical region, it spread to Burdach's columns, and was most extensive in the lower cervical and middle dorsal regions. Below the lumbar enlargement, the degeneration ceased.

The author regards the spinal changes as the result of the action of some toxic substance in the blood of diabetic patients. Similar changes have been found in the posterior columns of the spinal cord in pernicious anemia, leucocythemia, Addison's disease, etc.

The Relation Between Diabetes and Cirrhosis of the Liver.

After referring to a number of previously-recorded cases of diabetes associated with cirrhosis of the liver, Pusinelli (*Berliner klin. Wochenschrift*, August 17, 1896) reports an additional case of this somewhat rare combination.

The patient was a man aged forty-eight, at the time when the case was reported. His previous health had been good. In 1887, he suffered from jaundice for six to eight weeks. In 1888, he first noticed thirst, and 1½ to 2 per cent. of sugar was found in the urine. After a visit to Carlsbad, the sugar disappeared from the urine for some months, but then returned. In 1893, after a severe fright, ascites and jaundice developed, and at a later date edema of the legs. Great enlargement of the liver and spleen was detected. The abdomen was punctured and ten litres of fluid withdrawn. On three subsequent occasions the abdomen was punctured, and after the fourth tapping, blood oozed from the punctured wound for some time. After the closure of the puncture opening, the ascites did not reappear. The patient improved and returned to his business; the jaundice gradually disappeared and the liver diminished in size,

The point of greatest interest was the sugar excretion. During the year 1888, the amount of sugar in the urine was 2 to 5 per cent., but during the time the ascites was well marked; the sugar disappeared entirely. After the last paracentesis the glycosuria returned.

In a postscript, the author adds the termination of the case. After the patient had remained well for two and a half years, the dropsy returned, the glycosuria diminished, death occurred, and the autopsy revealed typical cirrhosis of the liver.

The cause of the liver cirrhosis was not clear; there was no history whatsoever of syphilis or alcoholism.

SURGERY.

Good Results Following Urethral Resection.

Fuller (*Med. News*, July 25, 1896) describes two cases, in each of which a most extensive resection of the urethra was performed. The operation was apparently first suggested by Konig, in 1882, his case being a traumatic stricture of the membranous portion. The free edges of the urethra were dissected up and brought into apposition by suture. Konig supposed that the success of the operation lay in the healing, by primary union, of these cut edges. The operation was, therefore, held to be applicable only to such cases of stricture of the membranous urethra as involved but a short portion of its length, and as would consequently admit of suture of the cut edges.

Acting on this idea, Wolfler, a few years later, finding that he had resected too great a length of the urethra for suture, grafted in the necessary amount of mucous membrane from a guinea-pig. He recorded a good result.

Many satisfactory cases of grafting were given by different observers; but the taking of the graft has only been inferred. Indeed, it is difficult to see how the graft can be exactly sutured so as to make a roof for the posterior part of the resected urethra. As equally favorable results were soon obtained, without the aid of either primary suture or graft, the objection to the excision of large strictures became void. Finally, in 1892, Guyon, and others of the French urethral surgeons, seeing no reason why resection should be confined to traumatic stricture, recommended the application of the method to contractile and rebellious strictures of gonorrheal origin.

The usual proceeding advocated by the French authors is, after excising the stricture and surrounding cicatrical tissue, to introduce a *sonde a demeure*, and then to unite the perineal or penile tissues by several tiers of suture over this. The advantage of the *sonde a demeure*, after extensive section of the deep urethra, is that it acts as a splint, steadying

the cut urethral ends, and affording a firm, cylindrical body, about which the perineal tissues may be moulded, so that in healing they may be made to conform, as nearly as may be, to the shape of the new urethra. The disadvantage of the instrument is that it cannot be removed if its presence in the bladder causes tenesmus. If vesical tenesmus be excited, the urinary infiltration into and suppuration of the perineal tissues may result. If the sound is once removed to rest the bladder, it cannot be replaced, and the only thing to do, in such event, is to re-open the perineal wound.

Seeing the disadvantage of this mode of treatment, the author, in his two cases, divides the deepest part of the membranous urethra and the most posterior perineal structures, and passes a large-sized drainage tube into the bladder by this route. Then, along the urethra, he passes a soft catheter, extending to the big perineal tube, and about it sutures the perineal structures. This urethral tube is kept *in situ* for a week or ten days. The big vesical tube can be withdrawn and replaced, if necessary, without disturbing the urethral tube.

In the first case reported by the author, the scrotum and perineum was one mass of indurated tissue, riddled with fistulæ. Through one of these openings a filiform bougie was passed into the bladder as a landmark. Then a long, straight median incision was made, extending from the penile urethra, in front of the scrotum, back to and partially including the anal sphincter. The cut split the scrotum, a testicle lying on either side of it. The entire bulbous urethra, an inch of the penile portion anterior to the bulb, and the anterior half-inch of the membranous portion were found disorganized. The diseased urethra existed as a hard, fibrous cord, perforated in numerous places, and so contracted that, on being split open by a longitudinal incision, little remained to mark the course of the canal. The whole of this disorganized urethra was dissected out with the cicatricial nodules about the perineal sinuses. A perineal vesical tube and a urethral tube were put in place in the manner just described. The urethral tube was retained for ten days, and the vesical one for nearly three weeks. The perineal wound healed practically by primary union, and in six weeks the opening left by the vesical tube was soundly healed. A year after the operation, a No. 18 (American) sound could be easily passed, and urination was normal. To the feel, the scrotum and perineum were soft and natural.

In the second case, the man was first seen suffering from extravasation. To open the bladder through the perineum, deepened as it was by so much infiltration, was likely to be such a prolonged and serious operation that supra-pubic drainage was performed. The other parts affected were freely incised. It was well that the opening was made above the pubis, for an abscess of the pre-vesical space was thereby opened, which could by no manner of means have been drained through the perineum. A fortnight later, the sloughs having separated, a further operation was performed. Part of the urethra was found to have almost sloughed away. The anterior end was defined by a catheter, and the cicatricial tissue about it excised. By passing a sound through the supra-pubic opening, down the urethra, the posterior end was cleared. In all one and three-fourth inches were removed. The structures were, as far as possible, drawn together over a urethral tube, as in the other case, and the bladder drained by a perineal tube. The wound was left to granulate. The tubes were removed as before, the urethral in ten days and the vesical in three weeks. The supra-pubic and perineal openings then quickly healed, and four months after operation a No. 17 (American) sound could be easily passed.—*Med. Chron.*

GYNECOLOGY.

Gangrenous Suppuration of Fibromata, Independent of the Uterine Cavity.

Hartmann and Mignot have made careful observations (*Annales de Gynécologie*, June, 1896) on a case which occurred in the practice of M. Terrier. The uterus, with the fibroids, was removed by hysterectomy. From an examination of the specimen they conclude that suppuration and gangrene of these tumors are consequences of gangrenous inflammation of the capsule, which results from the action of a special organism.

The microscopic sections showed: (1) Subepithelial embryonic infiltration of the uterine mucous membrane, the glands not being involved. (2) Severe lymphangitis of the submucous layer. (3) Diffuse suppuration of the cellular capsule of the tumor. (4) Necrotic lesions of fibroid tissue, which appear to have commenced in the centre of the fibroma.

The pus was examined and a very large number of bacilli were found. The bacilli were short and thick, and showed a tendency to unite at their extremities. They stained with aniline dyes, but were very readily discolorized. They were anærobic.

The authors believe that this organism is the cause of the suppuration. The bacillus was found pure in the uterine mucous membrane, and it was very abundant in the pus of the capsule of the fibroma, having reached the capsule through the lymphatics of the uterine wall. A similar anærobic bacillus has been described by other observers as occurring in the vagina, and also in cases of encysted peritonitis, with offensive pus.—*Med. Chron.*

Suppuration of Ovarian Cysts.

Suppuration occurring in ovarian cysts is by no means a common occurrence, but of late years a considerable number of cases have been recorded. Bouilly discusses the subject

at some length (*La Gynécologie*, June, 1896), and he also records in detail eight cases coming under his own observation. In six cases the cysts were simple unilocular or multilocular; and in two cases they were dermoid. In considering this subject it is important to remember that an ovarian abscess may simulate a small cystic tumor which is suppurating, and the puriform fluid found in certain dermoid cysts must also be discriminated from true suppuration.

Ætiology—In former times puncturing an ovarian cyst occasionally led to suppuration, probably due to lack of careful asepsis. In one case of this series the patient had received a violent blow on the abdomen three weeks before admission to the hospital. Eight days later she had symptoms of peritonitis, and on opening the abdomen a suppurating cyst was discovered, which had ruptured into the peritoneum. Infection may also reach the cyst from a neighboring organ by the lymphatics, or by continuity of tissue and adhesions, or even through the blood.

In two of the cases infection from the uterus after labor was the cause. Infection may also come from a diseased tube, or the vermiform appendix inflamed and adherent to the cyst wall.

The specific fevers may also lead to the infection of the cyst. In one case recorded by Werth, a suppurating cyst was removed eight months after an attack of typhoid fever, and a pure cultivation of the bacilli was obtained from the pus. In one of Dr. Bouilly's cases, the patient had influenza some weeks before the development of the symptoms. Lastly, in three of the cases, no obvious cause for the suppuration could be found.

Mangold, who has written extensively on this subject, distinguishes two forms of infection of these cysts. (1) Saprophytic, caused by saprophytic staphylococci. This is distinguished clinically by the fact that the symptoms are slight, and the patients feel fairly well. There is no peritonitis. The prognosis of these cases is favorable with operation. (2) Septic, caused by streptococci pyogenes and staphylococci, gonococci, bacteria coli commune, typhoid, and tubercle bacilli. Here the general condition is serious, and there is often peritonitis, with firm adhesions, rendering the prognosis unfavorable.

The *symptoms* of suppuration may be slight at first, unless it is provoked by trauma, or the cyst has ruptured, causing acute peritonitis. Usually there are the general signs of ovarian tumor with fever. If the tumor is small it may readily be taken for pyosalpinx. In some cases a large quantity of gas may collect in the tumor, causing resonance over it, and thus complicating the physical signs. An important symptom is usually the rapid increase in size of the tumor. Pain is variable; it may be slight or absent. If severe, it is often due to peritonitis or extensive adhesions.

In one of Dr. Bouilly's cases symptoms of mania came on, only ceasing after the removal of the tumor.

With regard to *treatment*, immediate laparotomy is advisable, the tumor being removed unruptured. Drainage is usually required. In the most septic cases there is danger of infection of the silk of the pedicle, which may lead to the formation of a fistula and prolonged discharge. In one case a counter-opening was made in the vagina. If adhesions are very extensive, it may be impossible to remove the tumor; it is necessary then to content oneself with free incision into the cyst and drainage.

Of the eight cases recorded, five recovered and three died. In one of the fatal cases the cyst had already ruptured into the general peritoneum. In another case the infection of the cyst followed during the puerperium; the operation was done one month after delivery, and adhesions were very numerous.

No special mention is made of the condition of the pedicle in most of these cases. In one case only it is stated definitely that the pedicle was not twisted—*Med. Chron.*

NEWS AND MISCELLANY.

The Obstetric and Gynecologic Section of the Buffalo Academy of Medicine met September 22d and considered this program: Post-Partum Hemorrhage: Etiology, Pathology, and Diagnosis, Dr. P. W. Van Peyma; Treatment, Dr. R. L. Banta.

Gesture has long been considered of diagnostic value, and Dr. Ricard points out peculiar phenomena in connection with the indication by patients of the location of pain. If a patient is asked to locate his pain, he does so by the movement of one or both of his hands. The gesture, however, in reality not only indicates its seat, but describes its character and distribution. This is an all-important point. If the pain is widely distributed over the whole chest, the patient locates it with a circular rubbing motion of the palm of the hand, indicating the diffused soreness. On the other hand, the pain of a serious inflammation is described by first drawing the hand away from the body, and then, with the fingers close together or with the index finger extended and the other flexed, cautiously approaching the seat of the inflammation. In appendicitis the patient refrains from touching the skin, indicating the location of the pain by simply holding the palm of the hand over the diseased areas. To indicate violent non-inflammatory abdominal pains the patient will slap himself vigorously across the abdomen. In hip-joint disease the pain will be referred to a point inside the knee. With terrific diffused pain in the leg, not due to an inflammation, the patient grasps the leg firmly. If it is a darting or lancinating pain he will indicate it with one finger. Pain caused by the descent of renal calculi and gall-stones is suggested by the following of their course with the top of the thumb or index finger. A severe syphilitic headache will

be indicated by hammering with the tips of the fingers near the seat of the pain. In joint pains the patient approaches the seat of trouble very cautiously, with the hand spread flat. The degenerative pain of locomotor ataxy is described by grasping the affected area firmly, indicating a band-like pain. Or, if the pain is sharp and lightning-like in the leg, the pain gesture is perfectly descriptive, an energetic downward motion, at the same time twisting the hand as though manipulating a corkscrew.

The Reading (Pa.) Medical Association has elected the following officers for the ensuing year: President, James W. Keiser; vice-president, Daniel Longaker; secretary, S. T. Schmehl; treasurer, Walter Rigg; representative to the Board of Managers of the Reading Hospital, C. W. Bachman; censors, Henry Landis, J. L. Bower, and C. M. Kurtz; curator, Henry Landis.

The diagnosis of uterine cancer is not very difficult in the majority of cases says Kessler in *St. Petersburg Med. Woch.* The text-books lead us to believe that it is always associated with cachexia; the suffering expression of the face, very frequent hemorrhages, fetid discharges, etc., are not always present. But a serous discharge, a bleeding between menstrual periods, and particularly a hemorrhage after the menopause, should make one very suspicious of malignant disease. He deprecates the practice of giving ergot or styptics in uterine hemorrhages when one suspects carcinoma, because while using these drugs the disease is progressing and valuable time is lost.

If a physician, who has professionally attended upon and prescribed for a person, and has also observed such patient while not thus in attendance, can give an opinion as to his condition, based upon facts he observed while not acting professionally, and excluding from his mind what he observed while in attendance, the appellate division of the supreme court of New York says that it can see no reason to doubt that he may also give an opinion upon a hypothetic state of facts stated in a question which excludes all knowledge of the condition of the patient which he derived while in professional attendance. The only objection, it further states, in the case of Meyer v. Standard Life & Accident Insurance Company, decided July 7, 1896, that can be urged to a doctor, who has been in medical attendance upon a person, giving an opinion in answer to a hypothetic question as to the condition of his patient, is that the knowledge he derived while in attendance might affect his answer. But the same objection exists to the physician's giving an opinion founded upon observation of his patient while not in actual professional attendance. Mr. Justice Landon, in a concurring opinion, says that the trial judge in the court below decided, in effect, that the attending physician could not answer the hypothetic question solely upon its hypothetic basis, but would to some extent base his answer upon his professionally-acquired knowledge of the patient's actual condition. His reviewer, on the other hand, thinks that, as this is a question of fact, it should be decided upon evidence. It can not be assumed, as a matter of law, that the physician could not answer the question as a hypothetic one, wholly uninfluenced by his personal knowledge of the patient's condition. He therefore suggests that the proper practice would be to examine the attending physician preliminarily as to his ability in this respect.—*Journ. Am. Med. Ass'n.*

The only remedy of value in epilepsy, according to a foreign exchange, says *Practical Medicine*, is potassium bromid, and the dose should not be stopped for a single day during the period of treatment. Give five grams the first week, six the second, seven the third, and repeat this order. Give bromid so that two-thirds of the dose are taken two or three hours before the customary time for an attack. Always give in a very dilute solution. Small doses of salol combined with the bromid are of value. The patient should not be allowed to sleep during the day. After a year and a half the dose of bromid may be diminished.

The use of cocaine should not be abandoned in surgery because its irrational employment has produced deleterious effects, says *Codex Medicus.* Always make a thorough physical examination of the patient before injecting the drug. It should not be used in cases showing organic diseases of the brain, heart, lungs, or kidneys, or in persons of neurotic diathesis. Children bear it fully as well as adults. The patient should always be placed in a recumbent position prior to its employment. Constriction should be used whenever possible to limit the action of the drug to a desired area. Use a freshly-prepared solution for each case. Distilled water should always be employed, to which phenic, salicylic or boric acid should be added. A two-per-cent. solution has a better effect, and is safer than solutions of greater strength. Never inject a larger quantity than one and one-eighth grains when no constriction is used. About the head, face and neck, one-third of a grain should never be exceeded. When constriction is possible, the dose may be as large as two grains. Every slight physiological effect is not necessarily to be taken as cause for alarm. Cocaine does have effect upon inflamed tissues. In case alarming symptoms occur, use amyl nitrite, strychnin, digitalis, ether or ammonia.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2066. SATURDAY, OCTOBER 10, 1896. VOL. LXXV—No. 15

ORIGINAL ARTICLES.

INTRODUCTORY ADDRESS.*

ELIZABETH R. BUNDY, M.D.,† PHILADELPHIA.

No duty of the many now so near will be pleasanter than the one assigned me for to-day,—to voice the pleasure of recognizing familiar faces, — to pronounce a greeting to new ones, and to say welcome, welcome to you all! To sound the first note cordial and friendly, with the hope that the harmony built upon it shall be a full and noble chorus, unbroken till we reach the year's end.

Many influences have turned your steps to this common ground, where all will stand for a time; from varying interests have you come, to work here in a common cause; that cause to seize and make your own such fruits of others' labors as you may. And more, —to learn your own powers for undertakings quite new,—to so develop and strengthen those powers that, four years hence, you may face the life before you with the calmness bred of knowledge, and the courage and confidence so indispensable for your future work, but only justified in those well prepared to undertake it.

And we who meet you? We, too, are students; striving to be learners ever. We all belong to the working classes together. Those of us who have been thus engaged a little longer see but the wider field before us, and have the added incentive to put forth greater efforts for the sake of those coming, whose welfare is linked with our own.

This is *the* day of the year when you are all met together. Not one day after this will see you gathered as one class; even to-morrow you are no longer one, but four. A little looking ahead seems to be suggested here, a moment's survey of the common path through the land of common weal, before setting out.

What may you get at college? Only what others have gathered and set before you? I assure you, it will seem to you so at first,—and for many a day and month. So much you are shown which you must learn, so many things which, thus and so, you must do,—that all your time, and more, will scarce find room for them. It does appear as if the

* Read at the opening of the Woman's Medical College, Philadelphia, Pa., September 30, 1896.

† Adjunct Professor of Anatomy, Woman's Medical College of Pennsylvania.

medical student, more than any other, has no choice as to the exercise of certain or all of his faculties. Differentiation of such original properties as we possess, does not proceed in an all-round manner while we are here. In this stage of our development so much of our vital force seems needed for assimilative purposes, that the power of spontaneity lies in abeyance. So the one plea I urge for student work is, that it be really assimilative, not merely absorptive. For that this is not so easy, as it is vitally important, you will find most true.

Self-examination by the conscientious man and woman would often reveal, at the end of the college course, an inward state rather surprising to one at the beginning. So fixed may become the habit of "remembering" the way one's text-book or professor has pointed out as good to walk in, that one finds one has yet to make, out of all this, a way of one's own.

You may fill your note-books from cover to cover with complete transcriptions of lectures,—you may pore over text-books and shine in quizzes,—you may "read up" for examinations, and get a hundred in every one,—and when you see your first "case,"—how it will surprise you to find that you do not recall just such an one, with the appropriate prescription all written out in that good "practice" note-book!—or that the authorities you have studied must have omitted to describe this particular phase of disease.

And yet the books are right, and the note-books too, only they deal with types and you will deal with individuals. One of our former professors is responsible for an anecdote which will illustrate this:—

A certain graduate in medicine, whose degree was still a very recent acquaintance, was hastily called to see a child in a convulsion. Upon witnessing the distressing condition of the little patient, his instinctive and prompt exclamation was: "Why, *why*, don't you send for a doctor!"

May it be that more than one "grave and reverend seignior" in the profession can bring to mind a similar experience? And is it possible for you, when your time comes, to escape this "bad quarter of an hour?" An old adage comes to mind,—it would be a good one for the medical students' motto:—"In time of peace, prepare for war!"

Now, then, now is the time of preparation. Work your hardest, strive to your utmost to prepare for the war which you are so eager to wage! and still, when you are all alone with your first case, and realize that the doctor has been called, and you are she, be not surprised if you find before you a puzzle! This need not be disheartening. It is only that you will have yet to learn how you are going to use this knowledge, which you have so laboriously acquired by four years of work; whether you will be able to get, out of it all, the wisdom which must be of your own getting; whether, "with all thy getting" thou hast gotten the "understanding" which the years of preparation can but lead you toward! And since these years only can be your path to wisdom, vastly important do they become.

Professional acquaintances at home have been interested in your decision to "study medicine," have evinced the most encouraging faith in your probable success in the work they love; and I venture to say that nine out of ten of these kind friends have given one and the same piece of advice, namely:—"See all the cases you can, attend clinics!" And that is good advice, but there are "first steps" to be taken which will lead to this. Certainly you must learn the connection between the description of a case, and the case itself; only thus can you transmute theory into practice. But the "theory and principles" come first. Those now in the heat of the fray, have, perchance, mercifully forgotten, as one has put it, the soldier's first lessons while yet in camp; the days of drill, when he learned the meaning of "attention!"

Doubtless, ardor and enthusiasm count for much from the very first, but for steady push and staying power, can anything compare with the well-drilled soldier? These, then, are to be your days of camp drill. Now, again, the time for preparation for the war to come.

First, the study of facts discovered and established, to the mastering of such and making them your own, your first year, and indeed much of all four

years, will be well devoted. Hard grinding study of facts! some of them very hard and exceeding dry, alas! You will say: "Are we to spend our time only in trying to remember what some one else has learned?"

Ah, but remembering is not all! Be not content to know only that which is told to you in lecture or what you have told to some one else in recitation. This is but a part. What is given to you by professor and instructor only becomes your own as you use it for getting more; that more which is ever imperative, even while you are students. College will put the tools in your hands, and set your feet in the way. Your own wits must set themselves at work to do the rest.

Make thorough your knowledge of those branches which are in the college what the three R's were in the early temples of learning—anatomy, physiology, chemistry. Now that college courses are, properly, lengthened, the foundation may be well laid, upon which to build good work of the successive years. Soon will be added the observation and study of cases in the general clinic, and later on, you will make a nearer acquaintance with them in the classwork of special clinics.

It has been said recently, that the reason why medicine has advanced so slowly is because "physicians have studied the writings of their predecessors instead of nature." There was never a time when this criticism was more illy bestowed. Without doubt, a certain positive benefit follows the study of the work of others. The explorer in any field will hardly do well to turn his face from all indications that a predecessor has passed that way, but will rather avail himself of such as may exist, that here is a rock, there a pit-fall; or, on the other side, a safe and sure path through a bit of "bad land." What have the years to say to us, if they cannot tell of truths learned, which may be taken from their store and made our armamentarium?

This, then, is the end to be first attained by the medical student,—the equipment for further work. She who needs not to spend a few embarrassed moments in trying to recall the exact location of the heart, or in struggling to think, "what *is* the function of the liver?" or in *being sure* of the physiological action of belladonna, for instance, will have the whole of her special clinic hour in which to discover what is wrong with the patient before her, and how to apply to the relief of that patient some of the principles she has learned.

That the future physician may make these first attempts while yet under the wing of Alma Mater, is one of the advantages of the longer curriculum. Already the student may, by observation and study of actual conditions, learn to make effectual, in her own hands, the methods of treatment studied elsewhere, and may lay up a little of experience for future use.

Then, as former years have bequeathed much to us, so we may endeavor to add what we may to the general store. Always there are questions awaiting answer. Even when, sometimes, we think they are disposed of, like uneasy ghosts they rise, and still we seek the spell to lay them. Each year we hope for the answer to the long familiar question, "what is automatism?" Each summer sees the capture of new microbes, brought to you direct from over the sea, this time,—whose ways that are dark you must learn, and whose vulnerable spot you may discern.

New theories of diseases, new remedies for old ones,—these and other things, the pros and cons of which you will have opportunity to dwell upon, will be duly presented to you. And, although no new bones have been discovered, nor new uses for old ones, there is room for activity in even so fixed a science as anatomy. For, while studying form, there still remains to understand the reason why, or function. Neither can stand alone, and the anatomist may help to solve problems. He may, for instance, hope to aid in dispelling the slight lingering uncertainty as to how we shall demonstrate to our complete satisfaction that the sense of taste depends upon certain known nerve-distribution.

I wonder if anything but personal experience will save the entering class from the custom prevailing among all students, of ignoring certain well-known laws of health? It would be such a good thing if you could believe that not

one of you is elected to prove the exception to the rule that the "sound mind" dwells in the "sound body,"—that the tired brain is not the brain whose work you may depend upon, and that time expended in needed rest will profit you fourfold. The great field of Preventive Medicine, which I like better to call Preventive Measures, is for you, here and now.

There must be much help for the students themselves, to come out of the increasing interest in the subject of hygiene and sanitary living. Already we owe a debt to the bicycle, as a convincing exponent of the blessedness of more rational dress. And what may we not hope from the realization of our dream of a gymnasium, which shall be a laboratory of health!

Then, perhaps, it need not be, when the fight grows thick, and examinations are perilously near, "one half of the students are taking potassium bromid to put them asleep, while the other half are taking caffein citrate to keep them awake", as was once the comment, perhaps not all undeserved, upon the students near the end of the college year. Rather, may we not then expect, that the graduating class of the future, the near future perchance, will receive their diplomas with a cheerful mien, and spirits as fresh and alert as upon the entering day of Freshman year!

Our work as students, with its incessant demands that we shall grasp and hold so much, forces us to bend all our energies to getting. It is the giving of things not charged in the bill, which distinguishes the true physician. And the secret of it all is sympathy, but sympathy in a very broad sense. Real sympathy comes of that in us which makes human fellowship so necessary and so powerful to aid. It is that by which the strong will and courage of the physician call the weakened forces of the patient to rise and be helped to health again.

As in no brotherhood will be found more of the interchange of mutual interest than in the medical profession, so in the college life, this gracious spirit finds a place, as is witnessed in the students' organizations for social and friendly, as well as scientific, ends. All experiences, shared, are deepened. Even the interchange of the little courtesies which are among the amenities of life, bring a twofold blessing, upon "him that gives and him that takes." Through mutual interest in a common aim, mutual interest in a great and serious cause, which is vital to all, will grow the loyalty to each other and to our college which, more than other influences, will aid us, students and teachers, in attaining that unity in spirit and work, we all must recognize as desirable as it will be helpful.

In no other profession is the standard of perfection so constantly held before its followers, and no less, is the ideal of students and teachers.

What was attained in years past, is not the measure of that which we hope for in years to come, in this coming year, indeed! Which means that those before me, may be expected to leave a record more brilliant than any yet written. You have come, you will see, you must conquer!

In this undertaking, all who have our cause at heart will join the faculty in wishing you success! And thus, at the end of the years now before you, you will begin to stand alone—not yet in its fullest sense a "doctor", but well prepared to become a "doctor!"

For A Sinking Feeling.

That was what the woman complained of among the other ailments with which she exhausied the doctor's patience, until he made her up a little bottle of pills and gave her directions. Then she began again to talk; but at length, after many vain efforts to get her out, she started for the door. She had just opened it when she turned and said: "Oh, doctor, what shall I do if these pills do not cure me?" "Take the cork," he retorted; "they tell me it is good for a sinking feeling," and he called the next patient into his private office.—*Louisville Post.*

A Failure of Justice.

"All I demand for my client," shouted the attorney in the voice of a man who was paid for it, "is justice.'

"I'm very sorry I can't accommodate you," replied the judge, "but the law won't allow me to give him more than seven years."

FISTULA IN ANO.*

F. FARWELL LONG, M.D.,† CHESTER, PA.

Some authorities claim that fistula is more common than hemorrhoids. As a rule, a patient is very much alarmed when you tell him that he has a fistula, but if you tell him he has hemorrhoids he regards it as a small affair. We very often have fistula and hemorrhoids combined, since sometimes one may produce the other. We should never be satisfied when we find one rectal disease until we have searched to see if there is any other. As a rule, men are more subject to fistula and women to hemorrhoids.

Fistula is usually preceded by, or is the result of, an abscess, and when we find a patient with an abscess in the rectum, we should tell him that he more than likely will have a fistula. If we do not do this, the patient will think it then existed but we were ignorant of it, and will likely get some one else to attend to his fistula.

Abscesses of the rectum are usually chronic (or cold) or acute. When an abscess is of the acute nature, it is very painful and the hard tumor can be circumscribed. They are usually found in strong, healthy adults. The chronic or cold abscess, or that resulting from a degeneration of tissue is not painful and cannot be circumscribed. This is a dangerous form of abscess. Either form should be thoroughly emptied.

It is often very difficult to account for an abscess. There is no doubt that traumatism is a great cause, but this will not explain all. I think constipation is quite as common a cause as anything. In my experience, I think more cases have been due to straining at evacuation and to dry fæces held in the rectum than any other cause. I should like here to report a case of traumatism.

CASE 1. On April 10, 1896, I was called to see a youth, aged nineteen, who had been coasting down a hill on his bicycle and came to grief at the bottom, falling astride the frame. This caused intense pain at the time, but in the course of a half-hour most of the pain subsided, so he was able to go on his journey. About four days afterwards, he began to suffer again with pains in the rectum and sent for me. Upon examination, I found a hard, painful tumor in the posterior part of the rectum, which I immediately opened, evacuating all the pus and giving instant relief. I thought, perhaps, he might recover without having a fistula, but explained the case to him. In two weeks afterwards there was a small, secreting canal, which I operated upon with perfect result.

The manner in which you open and treat these abscesses will largely govern the number of fistulas that will follow. It is best to use a knife with a good-sized blade and cut parallel with the rectum, for the reason that the external opening should not close until all the pus has been evacuated. It is always best to explain to the patient, especially if dealing with a deep-seated abscess, just what you intend doing. I thrust the knife in deep, then as I pull it out, make a good-sized external opening and put the handle of the knife in and thoroughly break up the abscess, which I carefully wash out with hydrogen peroxide and pack lightly with iodoform gauze. This should be repeated in twelve hours, or a weak solution of bichlorid may be used and the wound packed again, repeating the treatment daily until it is thoroughly healed, reducing the amount of gauze each day. If rectal abscesses are treated in this way, the number of cases of fistula will be greatly reduced.

Fistula in ano is divided into four varieties: Complete, blind external, blind internal and horse-shoe. Most authorities claim that the complete fistula is the most common, which in my small experience has not been the case, as I have never found but five of this variety. I do not say that more were not complete, but I could not find the internal opening. My first operation for fistula

*Read before the meeting of the Delaware County Medical Society, at Rosedale Inn, Lazaretto, September 24, 1896.

†Visiting Surgeon to the Chester Hospital, Chester, Pa.

worried me much because I could not find the internal opening, and had obtained the opinion, as no doubt many others have also, that operations were not successful unless you did, which is wrong. In fact, I never search very long now for the internal opening, but push my director through the mucous membrane of the bowel and look for any other channels that may be present and divide them. It is a very uncommon thing to have a failure.

If you content yourself with only dividing the main channel and not searching for others and doing likewise with them, you are sure to have a failure. It must be remembered that these fistulous tracts are lined with hard cartilaginous material, which is very tough, has no vitality and will not heal unless freely divided top and bottom, or scraped out.

There seems to be among the laity, and a good many physicians also, the idea that rectal disease has some direct communication with the lungs, not only in disease but in health also it has strong hold on credulity. It is often hard to get a patient to consent to any operation about the rectum, even for hemorrhoids, and I have failed several times to obtain permission to do anything with the knife as they always fear some disease of lungs would follow. When I trace the origin of this idea, nine times out of ten it would come from some physician and all the arguments one could bring forth would not refute it. Older authors had the idea that the discharge from fistula in consumption had a modifying effect upon the disease. There are many to-day who still believe in this doctrine, but they do not believe, nor did they attempt to teach, that curing a fistula in a healthy person would result in tuberculosis. It is strange that, in this day of research and pathologic study, there are men who will, by an ill-advised word consign a person to a life of torture, by advising him against an operation which could do him no possible harm, but, on the contrary, relieve him of a life of suffering.

Another question arises. Shall we operate for fistula in ano in patients suffering from tuberculosis? Older authorities say no; but the teaching of to-day is more lenient, and they say if the disease is not advanced too far and the cough severe enough to interfere with healing of the wound that you will not only cure your patient from the suffering and disgust of his fistula, but you will benefit his general condition; and many of our best surgeons have put such cases on record.

In selecting cases for operation one should be careful that the disease has not advanced to the stage of severe cough, as this would prevent healing unless it could be controlled and nutrition would be so poor that a wound in any part of the body would be slow to heal.

There are also the cases where we find many tracts or sinuses and not only many sinuses but we also find cavities of small calibre, and if any of these should escape our notice the wound would not heal because of the constant flow which is kept up. These are the main reasons why surgeons should be careful in selecting cases for operation among consumptives. I have operated several times upon phthisical patients and have no cause to regret it, as I am sure I have not advanced their lung trouble and have removed a source of constant trouble and worriment. I have also refused to operate on many, but I think in incipient phthisis the operation is always justifiable.

Treatment.—A great many cases get well themselves, as we have seen for ourselves. There are several ways of curing a fistula among which we all have our preference, one liking one way and one another.

I suppose the injection plan of treatment, or application of caustics was first introduced to meet the whims of the patients. The object of this procedure is to destroy the pyogenic membranes by means of the escharotic. Granting that this could be done, it is much slower than the knife and equally painful. Injecting caustics strong enough to destroy this membrane often destroys surrounding tissue and causes abscess. This plan is a very old one and the agents used were iodine, silver nitrate, nitric acid and carbolic acid. With modern surgeons, however, this treatment has almost gone into disuse. Agnew, in his book on the treatment of hemorrhoids, gives full detail of this form of treatment. Another very common treat-

ment is by elastic and non-elastic ligatures; the elastic, however, having the preference. Having never used either form I cannot say much for or against them; however, this seems a very poor form of treatment, as it only divides one side of the membrane, and we all know whatever form of operation we select, unless we destroy the base as well as top of the membrane, we are not going to have very good results.

The common operation for fistula you are all so familiar with that I will not go into technic, but only wish to say that where failure happens it is usually due to either insufficient preparation of the patient or not finding all the sinuses and destroying all of the membranes.

Another important thing to do is to trim off the edges of the cut tract to prevent any part of them re-uniting.

The last form of treatment I will mention is one I first saw described by Dr. Matthews, of New York, and a very excellent one it is too, as we can do it without our patient knowing there is any cutting being done. We almost always have a queer lot to deal with in these patients, and they will resort to anything, rather than have you use the knife.

Two years ago a man came to me with a well-developed fistula and said he had visited several very noted surgeons and they all advised an operation, which he refused to have done. I made an examination and found a fistula about five inches long, and as he would not consent to an operation I began to look for some other cure and found there was an instrument invented by Dr. Matthews, called the fistulotome, which I got. I made a date with my patient, telling him, by dilating his fistula I could cure him and I did the operation, and made a perfect cure. Since that time I have done others with very pleasing results. I do not offer this operation as being better than the ordinary one of laying open the tract, etc., but it has some advantages which the others do not have in selected cases. I present the instrument for your examination. You can see it is very little larger than a probe. I usually take a probe and ascertain the exact course of the sinus and about its length and use cocain either in the tract itself or inject it about the tract. Then pass this instrument in the length of the sinus. If the sinus is too small to admit it I dilate with laminaria tents which cause but little if any pain. Pass the fistulotome and by adjusting the screw at the handle, set the concealed knives to cut any depth. (I never let the patient see these knives as I only use them on patients who will not consent to cutting operation). Then slowly draw the instrument, cutting two sides of the sinus as it comes. When near the external opening I draw the instrument out rapidly, as cutting through the skin is the most painful of all the operation. There is very little hemorrhage and that is very easily controlled.

If I think necessary, I insert the instrument again and by turning it half way around make another cut, making four in all into the membrane, top, bottom, and both sides, thereby insuring good granulating surfaces and all without pain. If, after waiting a few days I find that I did not cut deep enough, I repeat the operation and keep the patient under observation sufficient time to be sure of a cure. The chief point is not to allow the external opening to heal until the sinus is closed. Over the ordinary operation with the knife this can claim four advantages:

1. It takes away all horror of the knife from the patient.

2. The sphincter and other tissues are not cut.

3. The excessive hemorrhage is avoided.

4. The patient is not confined to bed nor taken from business.

I think many of you may find this operation useful but it has a limited use. Let me say here, that the cutting operation as usually practiced, which is to divide all the tissues on the director, trim the edges, cut through the bottom and lay open every additional sinus is the one to be preferred in the majority of

cases, where you can obtain the consent of the patient.

DISCUSSION.

DR. JOHNSON.—May I ask Dr. Long if he uses anesthesia in these cases?

DR. LONG.—Yes. Cocain throughout the tract in all simple cases, general anesthesia for all complicated cases.

DR. JOHNSON.—What strength of solution do you use?

DR. LONG.—Two drams of a four-per-cent. solution are generally sufficient. I once used one-half ounce of a four-per-cent. solution and had trouble.

DR. BARTLESON.—Do I understand you to say that you never fail where you succeed in keeping the external wound open?

DR. LONG.—When the fistula is a straight tract, never; when more than one sinus exists, the operation may fail.

DR. BARTLESON.—There is a plan of operation which consists in cutting out the fistula, freshening the surfaces and sewing up.

DR. JOHNSON.—Will Dr. Long inform us what is the advantage of this operation?

DR. LONG.—The only advantage this operation has over others is simply that you operate without the patient being aware of the fact that you are using the knife. There are a certain number of patients suffering from anal diseases who will not consent to any cutting operation. This tendency has been somewhat fostered by the popular idea, which was at one time acceded to by some members of the profession, that the healing of anal fistula would produce disease of the lungs or tuberculosis of those organs.

I remember one patient who had suffered with anal fistula for four years. He had consulted the late Dr. Agnew, who assured him that nothing but an operation would relieve him. I told him I could cure him by dilating, to which he consented. I operated in this case twice and the patient was entirely cured.

The most painful part of the operation is the withdrawal of the knife through the superficial or skin surface. This difficulty is met by rapidly withdrawing the instrument upon reaching the superficial surface.

DR. FORWARD.—I have noticed that in some cases, after cutting and packing anal fistulæ, they are slow to heal. In some cases, complicated by urethral stricture, I have found that, after cutting and dilating the stricture, the healing of the fistulous tract was much more satisfactory.

DR. ULRICH.—I would ask Dr. Long is the patient conscious of the cutting?

DR. LONG.—No, sir. A slight exclamation while withdrawing through the skin surface is the only evidence of disturbance met with.

DR. FRONFIELD.—In a large proportion of acute abscesses, we have complete fecal fistula. In chronic abscess, due to the breaking down of glandular tissue back of the rectum, the fistula may be incomplete. Such being the case, I don't see how you can expect relief from this operation in acute cases.

DR. ULRICH—Almost all cases in my experience are cured by puncturing into the bowel and cutting out, whether the fistulous tract already opens into the bowel or whether we make an artificial puncture. I may be a little old-fashioned in my treatment of anal fistulæ, but I have treated a great many of them during a period of many years. I don't employ anesthesia so frequently as many others do, and find that I can treat many cases successfully without it.

My plan is to pass the Grove director in the bowel, find the internal opening, follow the tract down to the external opening, put the parts on a stretch and cut from without inward. I do not pay so much attention to former details, such as packing, etc. Dr. Levis formerly expressed himself in a similar manner in the manner of cutting, details, etc. He said, "Cut them out and they will get well without packing."

Only a few days ago, a lady came into my office for operation. I put her in the chair, turned the fistula out with my director, entered from the bowel, cut, packed it and sent her home. She was in bed a day or so. When I saw her, the packing had come out. She got well without any trouble. I don't care about lung complications, but operate when necessary. A good deal of trouble in minor surgery is in talking too much about the operation. The patient expects to be hurt a little and the operation can often be completed at the same time examination is made. I never interfere to control the action of the bowels, but let them alone. Most of these cases will get well.

DR. BARTLESON.—There is a great deal of pain connected with these operations, and I do not consider that the surgeon does his full duty by his patient if he undertakes to treat them with an anesthetic. I have happened to treat two cases with the ligature, but do not recommend it as a surgical procedure to be commonly followed.

DR. ULRICH.—Speaking of anesthesia, I am reminded by Dr. Dickeson, who was present, of a rather remarkable instance of hypnotism which occurred in a Philadelphia College some years ago. The case was as follows:

A girl, eighteen years old, suffering with epilepsy, was admitted to the Clinic. The case presented evidence of an old depressed fracture, due to a blow with a stone some years previously, since which time the epilepsy had been present. She was willing to be operated on, but only on consideration that Dr. Longshore should be present and use his mesmeric influence to produce sleep. Her request was acceded to. After the girl was placed on a table, he made a few passes and

told Dr. McClintock the patient was ready. A large T-shaped incision was made, three inches in length. The skull was trephined, the pressure relieved and the wound closed up with absolutely perfect results and complete disappearance of epileptiform seizures thereafter.

One of the unique features of the operation was the following: Whenever Dr. McClintock would move from one side of the table to the other, the patient would place her handkerchief to the corresponding eye and gaze out of the other eye at the class. After the operation was finished, she was asked if she had suffered any pain, and the answer was decidedly "No!" She said that when Dr. McClintock made the incision, it felt as though he was passing his finger along the wound.

DR. DICKESON.—A similar case occurred in the Bellevue Hospital, under Charcot. An operation was performed on the skull of an epileptic, in which the skull was opened, an abscess cleaned out and the operation finished without any pain. In another case, in the same institution, the patient said he suffered excruciating pain. There is a difference in cases.

DR. FORWARD, SR.—I have had some experience in operating upon fistula in ano, and, like most men, have some theories in regard to the trouble. I have an idea that most abscesses result from puncture of the wall of the bowel caused by straining at stool, from constipation or any other cause. Urethral stricture, no doubt, has its influence in the condition.

As the result of this perforation, the fluids from the bowel percolate into the outlying structures, gravitate downward, and eventually produce abscess. Rupture may occur for months before abscess results. The point of selection for this rupture is generally about one inch, or perhaps a little more, above the sphincter. Wherever we have percolation of intestinal fluids, we will have infection, tumefaction, and eventually abscess.

The frequent cause of the recurrence of fistula, whether operated upon or not, is the fact that the rupture is high up. I have seen cases where the perineum seemed riddled with sinuses, some of them opening at a distance of one inch from the edge of the sphincter.

The operation for fistula is similar to all operations in which we have sloughing as a condition of the parts. There is no routine plan of operation. We must get at the point of leakage within the bowel, lay the parts freely open, curette to remove all pyogenic membrane, and keep open until the wound heals from the bottom. Unless this procedure is carried out, you will not cure your patient. I do not condemn Dr. Ulrich's plan. As most fistulæ open one inch above the sphincter, the operation frequently fulfills all indications. I think the mistake is often made in confining the patients to bed and treating the case antiphlogistically. It should be our object to induce congestion and granulation, and if we do not have sufficient of this within forty-eight hours, the operation is a failure.

The only connection there is between fistula in ano and tuberculosis is that the former, by its exhausting and debilitating effect, will sometimes prepare the body for systemic infection.

ALCOHOLIC STIMULANTS IN THE TREATMENT OF DISEASES.*

JAMES FULTON, M.D., NEW LONDON, PA.

For a very long time alcohol has been considered in its different forms as a very important adjuvant in the treatment of diseased conditions. This belief is perhaps partly acquired by constant association with the different stimulants kept by many in their houses as convenient remedies in the case of accident or sudden illness. Beginning with the babe in the cradle it is freely used in the colic. Many times have I been told, upon inquiring as to what remedies had been used, that only a little brandy had been given, saying that some physician had said that "it was the best remedy that could be used in such conditions." Many physicians also encourage this view by constantly prescribing liquor, no matter how trivial the trouble may be. I have known practitioners, who, on being called to a case, would ask, "have you brandy or whiskey in the house?" If answered in the negative, they would say that some would better be procured, as it would in all probability be needed, and it generally was.

Thus confidence has been established with the laity. Young physicians beginning life and anxious to build up a clientele, feel oftentimes compelled to yield to the wish or will of those by whom they are employed in order to gain their favor. I have noticed in the

*Read before the Pennsylvania State Medical Society, May, 1896.

laity, even among those professing temperance principles, that while in health, such doctrine will do to preach, but when they are ill they do not feel willing to practice it. They will denounce liquor with all the anathemas the vocabulary contains, but when they fall ill they will probably trust their lives in the hands of a physician who will liberally prescribe stimulants, and sometimes himself indulge in them as beverages. This would seem like a strange inconsistency. Education has thoroughly fixed in the human mind the idea of the importance of stimulation.

The theory is promulgated by many of those who teach and lead the profession that alcohol is one of the chief sources of heat, and that in low forms of disease, such as typhoid fever and consumption, it assists largely in tiding the patient over the difficult passes he meets in his journey; hence the stereotyped orders for whiskey and milk, cod liver oil and whiskey.

If it be true that liquor will hold together the flagging energies in disease, that same principle will hold good in health; yet we find in the Arctic regions, where men have been exposed to great degrees of cold and exposure, those abstaining from liquor have had the greatest powers of endurance. So with soldiers subjected to laborious marches; those indulging in drink soonest fall by the way. Not only do they not so well tolerate such long-continued labors, but they do not so well resist disease. No man with experience but knows the influence of intoxicants upon the economy should it be overtaken with serious illness.

Some of the most careful and observing army surgeons have long since condemned the dealing out of rations of whiskey regularly to men in the ranks, being thoroughly satisfied that it not only incapacitates for present duty, but that it prepares the soil for the seeds of tuberculosis, under which they eventually sink without any recuperative power, the powers of life and reaction being largely depressed by the action of the poison long continued upon the vital forces. This fact appeals to the judgment and common sense of all having the privilege of large observation, particularly in hospital practice.

The question naturally arises why alcohol, being so largely used, is not the useful instrumentality it is claimed to be in the production of heat. Dr. N. S. Davis gave to a strong man four ounces of strong brandy. At the end of forty-five minutes his pulse from eighty had gone up to ninety without any increase in fulness or force. His temperature remained the same. At the end of four hours his temperature dropped five-tenths of a degree below normal; his pulse came down to eighty, the same as in the beginning. Here there was nothing gained. There was only the loss of a half degree in body heat.

Dr. Norman Kerr, in the *Twentieth Century*, says that, in the distant past when the station houses of London were not heated, men placed in them in an intoxicated condition, frequently succumbed to the cold. These two examples show, I think, conclusively, that alcohol will not raise body-heat, but has a material influence in reducing it.

Dujardin Beaumetz says all alcohols are poisonous. Dr. Richardson says alcohol has a particular affinity for brain and nervous tissue, particularly the pneumogastric nerve. Then why administer such remedies? Why keep the system saturated with it week after week with the notion of maintaining the body-heat, with the delusive hope of stimulating the powers of reaction? Dr. Frank ~~Byse~~ Paine, Vice-president of the Pathologic Society, of London, says it is a functional and tissue poison and has no necessary use in medicine.

Such then being the character, the physiologic effect, is it not important that physicians should consider the possible or probable results of its long-continued use? Dr. Benjamin Rush was the first to inculcate the principle that alcoholism was a disease. A remedy of a character so insidious is, to say the least, dangerous. We do not wish to supplant one disease with another more loathsome, more deadly.

Again, how is any remedy that poisons the tissues, that impairs the brain and nerve structure, going to assist in eliminating disease instead of depressing the nervous forces? We want them in their full force and energy that they in their important functional force may assist the powers of recuperation. Alcohol

impairs metabolism, the force of the economy by which the waste matter is largely eliminated from the system. To give alcohol largely in such conditions would seem like taking the steam from the engine and asking it to perform its duty, taking the fuel from the fire and expecting heat.

Delirium tremens is another important diseased condition in the treatment of which alcohol has in the past been considered of the first importance. Well do I remember my first experience with this trouble. A young machinist came to me, honestly stating his trouble and saying he could procure no more liquor at the hotel as they refused to let him have it, but if I would get him some he could "taper off." I did so, procuring him the required quantity, but unfortunately, he was only the worse for my treatment of his case. I am fully satisfied he fully knew the consequences of the liquor when he came to me, and I suppose I should have known too, but from previous teachings was prepared to listen to him and grant his request. So besotted become the victims of drink they are entirely unworthy of credence, willing at any time to swear to the falsehood that will procure them the poison that is destroying them. Dr. Keen says that he has treated about 300 such and his universal rule is to remove the liquor from the patient, and that he has the best effect possible under tonics such as strychnia. By this treatment, with good food, they rapidly improve soon gaining health.

Dr. Keen again says that to the prisons and workhouses of Great Britain there are admitted not many less than 100,000 annually, the great majority being broken-down inebriates. Their liquor supply is forthwith removed, with the result that they rapidly regain health and strength. From my experience, in order to treat such successfully, one must have the power of controlling them. Without this power you can do them little or no good. When I have the chance to treat them properly I have done just as Dr. Keen has treated his patients and the results have, to me at least, been satisfactory. My opinion is that anyone resorting to this course will be entirely satisfied, not only with his patient but with himself, feeling that he has done that which was best for all, under the existing conditions.

Dr. H. C. Wood declares in advanced chloroform and ether anesthesia alcohol failed in every instance to increase the size and force of the pulse, but in several instances helped materially in extinguishing it. His advice is in all cases during anesthesia to avoid all drugs except strychnia, digitalis, and ammonia and to remember that many of the deaths set down as due to chloroform and ether have been produced by the alcohol which has been given for the relief of the patient. In ordinary shock he says that alcohol is probably of no use at all. So well is he satisfied of this truth that he believes that a large dose of alcohol in such condition is equivalent to driving one nail in the coffin of the patient.

But I have gathered together evidence from observing, thinking men to arouse thought, hoping that it will so result that, in looking back over our pathway as physicians, we may be able to see it devoid of the mental, moral and physical wrecks that may follow the improper use of this powerful but dangerous remedy.

DISCUSSION.

DR. LAUTENBACH, Philadelphia, Pa.—This subject is too timely to pass without a word. When I was a student the great war cry was stimulate! *stimulate!* STIMULATE! At this time we find a great change in the position of some so-called stimulants. In my own practice I have had some very unfortunate experiences as a result of the old practice. Instead of alcohol being a preventive of tuberculosis, I have found it to be one of the most sure predisposing causes. Alcoholics are the first to fall ill when subject to the infection. I use alcohol very little, and unless used in small doses believe it to do harm. I had to stop its use largely in order to get the best results in my treatment.

DR. BORLAND, Allegheny Co., Pa.—This is an exceedingly interesting subject and deserves attention. It is especially important that we should recognize the change of view as regards the physiology of alcohol. We have been taught in late years that alcohol is not an ideal stimulant, that its action is more in the order of a narcotic, that its narcotic overshadows its stimulant effect. When used in typhoid it should be given more with the idea of tiding over nerve depression, not to stimulate. The question is, does alcohol furnish energy? We give stimulants to furnish energy. There is more tuberculosis in alcoholic families than in those not addicted to

its use. Alcohol is a drug we have not sufficiently studied to be reckless in its use.

DR. A. H. HARRISON, Harrisburg, Pa.—I am much pleased with Dr. Fulton's paper. It is proved that alcohol in small doses is useful to tone up digestion. Larger doses are irritant and produce hyperplasia. Its long-continued use may produce irreparable harm. In protracted cases is liable to do much harm. It should only be used in secondary fever during sloughing, and then in arterial stimulant doses, or to tide over brain exhaustion.

DR. HARE.—It seems to me there is danger in the medical profession accepting some of the authoritative statements made by medical men as necessarily true. The stand of Dr. Davis of Chicago, is liable to do great harm. In his reports he speaks of 210 patients treated in Mercy Hospital, which included a large number of alcoholics, and in which there was an exceptionally large mortality. He does not give the details of these cases, but simply states the mortality. In the profession of medicine there are two classes of physicians who represent the extremes of medical thought and opinion.

It occurs to us that the middle position is the safest and fairest to take. Alcohol is good to meet certain indications arising in certain diseases. The physician is called in to fit the remedy to the disease. The proper dose is important. The experiments made in the case of Alexis St. Martin are deceptive and not to be taken as conclusive.

DR. BORLAND.—I think there are other agents for production of force that are more useful; such as beef-steak, foods, etc.

DR. HAINES.—Alcohol is one of the remedies too dangerous to be used by the profession.

DR. LEMOINE.—In the use of alcohol as a remedy we should consider its moral and social effects. It has been much abused both in health and disease. In my opinion I am not at all sure but that it would be better if it were eliminated entirely from the materia medica. There are undoubtedly many instances of its evil after-effects. In many cases we may substitute strychnia, quinine, heat, ammonia, kola, etc.

DR. FULTON'S REPLY.—Dr. Hare misunderstands Dr. N. S. Davis' tabulated cases quoted from Mercy Hospital. The table was simply used to prove that alcohol was not a preventative of tuberculosis. So eminent an authority as Dr. Wood says that alcohol will not help the pulse but that it *may* extinguish it. Dr. Frank Hay, vice-president of the London Pathological Society, says that alcohol in an active tissue poison.

DR. HARE.—Alcohol is burnt up in the body and adds energy to it.

COMMUNICATIONS.

TREATMENT OF RETRODISPLACEMENTS OF THE UTERUS.*

E. E. MONTGOMERY, M.D., PHILADELPHIA, PA.

The forms of retrodisplacement are version and flexion. I do not propose to enter upon the consideration of etiology and symptomatology, but it should be remembered that displacement *per se* does not necessarily induce symptoms and consequently is not an absolute indication for treatment. It is only when the malposition is accompanied by congestion, inflammation, or hypertrophy that abnormal symptoms are exhibited. It is often a question difficult of determination whether the displacement stands in the relation of cause or consequence to the complication. Many of the symptoms are undoubtedly due to interference with the circulation occasioned by the situation of the uterus at a lower level than normal.

The treatment consists in massage, mechanical measures and surgical procedures. The aim of treatment should be the restoration of the uterus to its normal situation and its maintenance there and the relief of symptoms. One of the earliest methods of treatment and one yet frequently pursued is the maintenance of the uterus in its normal position by the use of a *pessary*.

It should be remembered that the pessary does not correct the displacement and but serves to maintain the organ in a corrected position. A pessary consequently should not be intro-

* Read before the Philadelphia County Medical Society, September 23, 1896.

duced until the uterus has been carefully replaced. Use of the support without replacement but aggravates the disease and the discomfort. The organ is replaced by manipulation. This may be aided by the position of the patient, as the dorsal and the genupectoral. With the patient in the dorsal position and the limbs flexed, one or two fingers of one hand are introduced into the vagina, while the other hand rests upon the abdomen. The fundus is pushed up by the middle finger in the posterior vaginal fornix, while the index-finger hooks in front of the cervix and pushes it backward. This action upon the lower end of the uterine lever carries the fundus forward until it can be grasped by the external hand and brought against or beneath the symphysis pubis. The existence of adhesions will prevent the replacement, or lead to an immediate return of the abnormal position, so soon as the restraining force is removed. Not infrequently it will be difficult, or impossible, to dislodge the fundus from beneath the projecting promontory of the sacrum. The dislodgment may be facilitated by grasping the cervix with a tenaculum or vulsellum and drawing up on the uterus until the fundus can be pushed forward, when the cervix is carried back. The genupectoral position, with the lips of the vulva separated, permits ballooning of the vagina and carrying upward of the uterus, but not necessarily with correction of the position. Drawing downward and backward upon the cervix promotes a restoration of the position. This may be expedited by pressure upon the fundus through the posterior vagina. The position corrected, the pessary may be introduced at once.

A third method of replacing the uterus is by the use of the uterine sound or repositor. The danger of traumatism, infection and the production of sepsis is so great as to render this procedure inadvisable. Care must be exercised in the use of the pessary to adapt the instrument to the patient and not the patient to the instrument. The proper length can be determined by measuring upon the examining fingers the distance of the posterior fornix from the posterior surface of the symphysis pubis; the proper width by separating the fingers. The Mundé or Thomas modification of the Hodge is the best form of pessary, in that each has a thick posterior bar. Those with a circular opening for the cervix are objectionable, as the weight will sometimes drive the organ into the opening until the pressure obstructs the canal and prevents drainage. The pessary does not maintain the normal position of the uterus by supporting the fundus with its posterior bar, but by a pulley-like action of the vaginal wall over the instrument.

Pushing up the posterior fornix draws upward the cervix and the other end of the uterus lever, the fundus, consequently falls forward. The pessary is only applicable to those cases in which the uterus is free and is readily replaced. Even in such cases the organ may be so tender that the instrument cannot be borne or the displacement has existed so long that the posterior vaginal fornix has become practically obliterated and affords no space for the lodgment of the pessary. In such cases a preparatory treatment with tampons to stretch the vaginal pouch may be necessary. Such tampons may be composed of absorbent cotton, gauze or wool, saturated with a glycerin compound such as the boroglycerid, or a solution of ichthyol. Prepared wool is the best agent for the purpose, as it possesses more resiliency than the other substances. It may be arranged in the form of a collar, being pressed well up behind, after replacement of the uterus, and the ends brought forward beneath the cervix. The medicated tampon raising the organ to a higher level improves its circulation and through the influence of the glycerin unloads the blood-vessels and promotes the absorption of acute inflammatory exudate. It has but little influence upon old or chronic inflammatory conditions. In the more acute cases it soon renders the use of the pessary practicable. In recent displacements, in the married or parous woman, the pessary may afford relief to all the abnormal phenomena of which the patient complains.

When the organ has been kept at a higher level until the circulation is improved, the organ decreased in size and the ligaments contracted, the patient may then be able to dispense with the

use of the pessary. In the majority of cases, however, this must be continued for an indefinite period.

To the nervous, sensitive woman, the pessary is always a source of anxiety, and in all cases it should be frequently removed and cleansed. It is a foreign body and by its presence increases the vaginal discharge. Cleansing vaginal douches should be used, but the employment of douches containing the mineral astringents should be prohibited, as the salts are deposited upon the pessary, roughening its surface and rendering it a source of increased irritation. Not infrequently, the salts from the vaginal discharge encrust the instrument and the irritation causes granulations to spring up until the instrument is completely imbedded.

It is well to advise the removal of the pessary if it causes pain or increased discharge, and under any circumstances it should be removed for cleansing at least once in two months.

Massage of the uterus is productive of benefit in all cases of displacement. The manipulation and squeezing of the organ increase the activity of its circulation, promote the absorption of exudate and act as a stimulant of the muscular fibres in its ligaments. Massage finds its greatest efficacy in parametric inflammation and exudation. Fixation can be overcome and the organ rendered freely movable, but considerable time and patience are required for the accomplishment of these ends.

The practice of massage is contra-indicated in cases presenting tubal collections of pus. As it is frequently difficult to determine the absence of such collections, massage should be employed with great circumspection in all suspicious cases.

Surgical procedures. The operative treatment of retrodisplacement has been a prolific field. It includes both extra-peritoneal and intra-peritoneal procedures. Sims advocated in cases of recent displacement that the uterus should be raised by a sound or repositor and the adherent gut pushed off by the external hand. Schultze advocated raising and fixing the uterus with the thumb in the vagina while two fingers are passed into the rectum above the fundus and the gut is dragged from the uterus by hooking forward and withdrawing the fingers; the organ is then drawn forward beneath the symphysis pubis, where it is maintained by a pessary. Both of these plans of treatment are objectionable in that they are blind procedures and render possible the tearing of a pus-tube or injury of an adherent ovary.

Shortening of the round ligaments, as advocated by Alexander and Adams, consists in fixing the uterus through extra-peritoneal incisions. Originally, the operation consisted in an incision over each external inguinal opening, picking up and drawing out and fixing the round ligament by sutures, the superfluous portions of the ligament being cut off. Various modifications have been introduced. Thus, only the external ring is exposed, the ligament is picked up at the internal ring and drawn out on a straight line; or it is exposed in the canal by slitting the muscle up to the internal ring. It is fastened by silk, silver wire, silkworm-gut or catgut. The superfluous end is cut off, folded up beneath the subcutaneous fascia, fastened by a knot to the opposite ligament and buried in an incision connecting the two wounds, or the ends are pushed through the fascia and united by sutures. The operation is only indicated when the uterus is freely movable.

Some of the objections to its practice are: (1) That it is a blind procedure and may be performed when there are perimetric adhesions that will produce subsequent discomfort; (2) it requires two incisions and often considerable dissection; (3) the ligaments are often so attenuated that they are discovered with difficulty and are unserviceable as supports.

The principal advantages of the operation are that it can generally be accomplished without opening the peritoneum, and that, beyond some pain at the eighth month from traction upon the scars, it is not found to interfere with the processes of gestation and parturition.

The intra-peritoneal procedures are either abdominal or vaginal. The round ligaments are shortened within the abdominal cavity by suturing together a fold of the middle portion of either ligament (Wylie), by grasping the cen-

tre of the ligament, stitching it to the side of the uterus (Dudley), or passing a suture beneath the middle of the ligament, through the anterior surface of the fundus and beneath the middle of the opposite ligament, which, when tied, brings the ligaments together in front of the uterus and swings the organ well forward (Mann).

The intra-abdominal operation most frequently practiced is known as ventral fixation or suspensio uteri. The steps of the procedure are a short median incision, separation of adhesions, bringing forward of the fundus, examination and treatment of the appendages and fixation of the uterus. Two sutures are introduced through the fundus, fastening it to the parietes. Various methods of suturing are used, buried sutures of silkwormgut, catgut, silver wire and silk, or through and through sutures which are subsequently removed. The buried sutures include muscle and aponeurosis, without peritoneum, or the peritoneum alone. The continuous chromocised catgut suture for closing the peritoneum and fastening the uterus to it by the two lower turns, while with the same suture the muscle and aponeurosis is subsequently closed, will prove very satisfactory. This procedure has the advantage over the Alexander operation in that it is (1) applicable to all conditions of the retrodisplaced organ, whether free or fixed; (2) it permits the careful examination and necessary treatment of the pelvic organs; (3) it requires but one short and clean incision.

The only disadvantage is that it has been found, in a large proportion of cases, to disturb the normal course of subsequent pregnancy and parturition. It is a question, however, whether these disturbances are not a result of faulty procedure rather than the proper performance of the operation. A peritoneal band of union will be amply sufficient to maintain the organ and will subsequently elongate to such a degree that it will not interfere with the physiologic enlargement of the uterus.

Various efforts have been made to secure ventral fixation without opening the peritoneum. An incision has been made down to the peritoneum and the uterus pushed into the opening and sutured. Sutures have been introduced through the abdominal wall and fundus without incision, but all such procedures are blind and unsatisfactory, besides not being free from danger.

The instrument devised by Dr. Baum, of Kansas City, for passing a suture through the fundus and abdominal walls is only to be condemned; as is also the procedure of Shucking, which consists of springing a needle from a carrier through the fundus of an acutely anteflexed uterus and bringing it out through the anterior fornix of the vagina. A ligature carried back as the needle is withdrawn, when tied, holds the uterus in the anteflexed position. This plan presents the possibility of injuring the bladder or ureter, and does not fix the uterus in a satisfactory position.

Vaginal operations for correction of the displacement are done through either the anterior or posterior fornix. Duhhrsen's or Mackenrodt's operation known as vaginal fixation consists in a vertical section through the anterior wall of the vagina, pushing off the bladder until the peritoneum is reached, and the latter opened. Any adhesions of the uterus are separated by passing two fingers over its fundus and the organ is drawn forward with both fingers, tenaculum, or vulsellum. The anterior surface of the uterus is fastened to the vaginal wall. The operation maintains the uterus in many cases in a very satisfactory position, but the subsequent occurrence of pregnancy has been found to result in abortion or marked discomfort during the course of gestation, with ultimate complication of delivery. In some cases the uterus is brought forward with difficulty, and a number of cases are recorded in which the organ was so torn and injured as to render hysterectomy necessary. The operation has been modified by stitching the uterus to the bladder, thus obliterating the vesico-uterine culde-sac. Wertheim advocated utilizing the found ligaments through the vaginal incision. An incision is made similar to that in the Mackenrodt operation. The fingers are passed over the fundus, the appendages examined and a loop of first one and then the other round ligament is drawn down and sutured in the vaginal incision.

The operation of fastening the round ligaments to the anterior surface of the

uterus, as suggested by Mann, may be performed through the anterior vaginal incision and the peritoneum and the vaginal surfaces brought by sutures in contact with the uterus.

For retroversion or retroflexion with adhesions, Pryor has advocated an incision through the posterior fornix, separation of adhesions by the fingers, bringing the uterus forward, and introducing a large packing of gauze behind the organ to prevent it becoming again displaced. Gottschalk commends shortening the utero-sacral ligaments. If these ligaments are shortened, the cervix is drawn upward and backward, and as a natural consequence the other end of the uterine lever is carried forward in anteversion. The method of procedure is as follows: A median vertical incision is made through the posterior vaginal fornix, beginning half an inch behind the os, and extending downward about two inches, Douglas' pouch is opened and the peritoneal vaginal incisions are united by temporary sutures, the ends of which are left long, and serve as retractors to keep the wound open. When adhesions exist, they are broken up, the condition of the appendages examined and treated, and the uterus replaced. The left utero-sacral ligament is fixed with the tip of the left fore-finger as far as possible from the cervix; an assistant keeps the wound open by strong traction upon the temporary sutures. Under guidance of the finger and control of the eye a suture is carried from above downward through the ligament and tied, one end of the suture is threaded into a curved needle which is made to enter the cervix a little below the level of the internal os, and, carried deeply, emerges near the margin of the vaginal wound. The same procedure is observed upon the opposite, and the sutures are tied so that the knots lie in the vaginal fornix. A small strip of gauze is introduced into Douglas' pouch, and the wound is allowed to close by granulation. The patient is permitted to leave her bed on the seventh day.

In the treatment of retrodisplacements, as has been mentioned, the displacement is not generally of so much significance as the accompanying complication, and no procedure that does not take cognizance of the latter will prove a satisfactory method of treatment. The proper treatment for the varying conditions may be briefly outlined as follows:

1. In recent cases, with a freely movable uterus, the medicated tampon or pessary. In many cases, the former will be required as a preparation for the latter.

2. In recent cases with a plastic exudate and adhesions (when pus-tubes can be excluded), massage supplemented by the medicated tampon and restoration of the mobility of the uterus followed by the use of the pessary.

3. In chronic cases, with a movable uterus, curettement, followed by suturing the round ligaments in front of the uterus through an anterior colporrhaphy.

4. When the displacement is complicated by disease of an ovary or tube, curettement, followed by abdominal incision, treatment of the affected appendage and fixation of the uterus to the abdominal wall.

5. When there exist adhesions without serious tubal or ovarian diseases, curettement and shortening of the utero-sacral ligaments after separation of the adhesions through the posterior vaginal incision.

Nature's Sarcasm.

People laughed a few years ago when the worst-diseased herd of cattle in a New England State were found on the farm of its agricultural college. The valuable animals were killed and the State stood the loss. So now people laugh when they read the reports of the ravages of the army worm here and there and notice that the greatest destruction it has caused in this State is on the farm of our State Agricultural College at Kingston.—*Providence Telegram.*

A Premature Claim.

Visitor—"Don't you guarantee to refund the money when you don't cure?"

Patent Medicine Man—"Certainly!"

Visitor—"Well, I've been using your remedy for five years and I'm not cured!"

Patent Medicine Man—"Keep right on, my dear sir! If our remedy fails we will refund the money to your executors on presentation of proper proof."

NERVOUS SEQUELÆ OF INFLUENZA.*

HORACE K. REGAR, M.D., PHILADELPHIA.

In my experience with influenza, I have noticed, as many others have, the profound impression made on the nervous system, the marked physical prostration, long continued, with mental depression, even to the extent of melancholia. Concomitant with these were, also, as you all have no doubt observed, sweating and chilliness, sleeplessness, poor appetite, continuation of gastric disturbance, with nausea and even vomiting, especially marked indisposition for all effort, either mental or physical, dread of impending evil. It would seem (if our powers of observation are not deceived) that having these symptoms at the beginning of an influenzal attack, we were led to believe that the affection lasts much longer than we have presumed, considering that we base our opinion on the duration of temperature. However, we know that these symptoms are not entities, or of themselves the sole malady, they being but pathognomonic of some more deeply-seated lesion or disturbance in the nervous system.

The great variety of manifestations in which "Grip" presents itself to our observation has no doubt had to do with attracting so much interest to it, but since Pfeiffer, of Berlin, has discovered the bacillus, there is no doubt but that in the future other investigators will turn their attention in that direction. We already attribute to this malady the existence of many serious, painful or uncomfortable afflictions of the various organs, making manifest many that were dormant which otherwise would have passed unnoticed.

Considering the effect on the nervous system, Althaus says: "Those cases predisposed by previously-existing nervous habit are nearly always sure to prove fatal." And again, at other times, grip seems to be only the accidentally exciting cause to a mental affection in persons who are strongly predisposed, or who have already suffered from previous attacks of insanity or allied neurosis. Thus, there may be a sudden attack of delirium tremens in an alcoholic, or acute mania in one who has already had it, the attack forming the last link in a chain of events tending to produce mental disturbance, which might also have broken out in consequence of any other exciting cause, or possibly without any such cause at all. Kræpelia has observed a sudden development of paralysis with aphasia and impaired memory, hypochondriacal and grand delusions.

The nervous sequelæ occur at varying periods after the apparently complete recovery, and are as various as the sequelæ effecting the other parts of the economy.

As I have before noted, the effect on the nervous system may be a simple vertigo or dizziness. Althaus speaks of a "Delirium of Inanition," as he calls it, occurring in a previously healthy young man, who had been strong and of steady habits, who suffered from the "Grip" and resumed his occupation before permission was granted. His fellow-clerks, however, noticed that there was a change; he became negligent, spoke in a foolish manner and made mistakes in letters and accounts, became untidy and disorderly, and at times delirious, but who recovered after treatment by rest, change and a nourishing diet.

The same author's words, speaking of the delirium of inanition are essentially appropriate when we take the cause to be a sudden exhaustion of brain-power from excessive destruction of the unoxidized albumen of the cerebral tissue. The inanition is so great sometimes as to lead to a fatal issue, the patients dying with symptoms of sudden cardiac failure and collapse, or it may go to the extent of profound depression or excitement. Of the cases of depression, Althaus mentions a case of incipient general paralysis of the insane, with recovery, and a case of general paralysis of the insane following a second attack

* Read before the Pennsylvania State Medical Society, May, 1896.

of grip, that ended fatally. As to the effects of grip on an already existing case of insanity, both Savage and Althaus concur in their reports of cases where there has been a recovery from both maladies, or where, during the attack of the acute disease, there was a remission of the insanity.

Some intensely neurotic persons, who have had not only one, but two and some three attacks of grip, have not been troubled apparently after convalescence, either with psychoses or any other nervous affection. Dr. James Tyson reports a case of a robust woman who was attacked with severe influenza, resulting in marked nervous depression and sleeplessness who became almost helplessly paralyzed on the right side on the tenth day, by which time the general symptoms had subsided. She died suddenly a little later.

As I have before mentioned, the range of nervous sequelæ of influenza covers almost the entire category of nervous affections, but among the more frequent is neuritis, affecting the great sciatic, the various branches of the fifth nerve and temporarily causing loss of the sense of taste and smell.

Neuralgic pain in the sphere of the supra-orbital nerve is one of the commonest complications. Bilateral facial palsy, torticollis and epilepsy are also reported to be inheritances of influenza. Various forms of sclerosis of the spinal cord may occur after it, either as a primary sequela, or at a later period after other neurotic affections. Hemianesthesia has been followed by spastic spinal paralysis. Posterior lateral sclerosis is also recorded as a sequela.

Only recently there have occurred two cases of Landry's paralysis; one was reported in the *Lancet* for April 4th, a patient under the care of Mr. J..C. Bowie, a boy seventeen years of age, and another case as yet not reported. A case occurring in the epidemic of 1890 illustrates, in a measure, the influence this malady exerts on the nervous system. A woman, single, aged thirty-five, had previously enjoyed excellent health. After the attack of grip she had lost all confidence and nervous power, cried for no reason, had insomnia and loss of appetite. The knee-jerks and reflexes were much exaggerated, and she was in a constant state of despondency. Another case is reported of a woman who was previously of a good and amiable disposition, but became melancholy.

DISCUSSION.

DR. LAUTENBACH.—This subject is one that has been talked and written about to some considerable extent, in relation to the causations of the various symptoms, but the bottom of the thing has not been reached. There are few diseases characterized so frequently as this is by the spontaneous rupture of small capillaries of the drum membrane.

The number of cases in which this occurs as a complication of influenza is larger than in all other diseases put together. This being the fact, it opens up a very interesting line of thought and investigation.

May it not be that sclerosis, paresis, various nerve lesions of the brain, spinal cord, and eye, may be expressive of small leakages occurring in those parts?

DR. REGAR'S REPLY.—The disease has not received the attention it deserves. We have on the program five papers relating to the treatment of typhoid fever, and only one relating to this disease, the unpleasant complications of which prevail all over the land.

An unusually high rate of infant mortality is shown in the statistics for 1895 in the Province of Quebec as given by the *Union Med. de Canada.* The population is given as 1,515,492; births, 58,653; deaths, 31,696, of which over 11,000 were due to contagious diseases. Over 10,000 were children from a day to one year old, and 5,220 were children from one to five years; a total of 17,532 chil dren, or more than half of the total number of deaths. It ascribes this high mortality to the lack of knowledge of preventive science in contagious diseases and to neglect. Where the parents are ignorant, it should be some one's duty to instruct them in the necessity of isolation and disinfection and limit a contagious disease to the first one or two attacked. It also states that another cause may be the policies paid by certain life insurance companies, which speculate on the "little last-comer," so that the parents receive $75 to $80 if it dies. It protests against this practice as "immoral from every point of view." The deaths from intestinal diseases (4,068) were nearly twice as many as from tuberculosis (2,791).

CURRENT LITERATURE CONDENSED.

A Survival of Savage Credulity.[1]

Dr. Dan Milliken, of Hamilton, Ohio, is evidently a man of comprehensive knowledge, close reasoning, rare humor, and remarkable power of expression. This we infer from a perusal of his presidential address, entitled "A Study in Credulity," delivered before the Ohio State Medical Society at its last annual meeting. He opened with a reference to the universal tendency of savages—a tendency shared by children and degenerates—to superstition, and particularly to the superstition of regarding disease as an evil spirit, something to be enticed or driven out of the body; and he proceeded to show that a conviction akin to that superstition had dominated the humoral pathology, still survived among the laity, and even now was not altogether conquered by physicians, so that it took a man of strong mind to stand out and not finally be influenced by the notion of the people among whom he was at work. This thought, he says, often comes to him when he hears a patient speak of his disease as "it." "We often hear," he adds, "that 'it' *struck in*, with the most serious results. I have been called out of bed to see a patient who was awakened with a numbness of the toe, and straightway sent for his brother, his doctor and his priest, lest 'it' should creep up to some vital organ and send him to the realm of shades in shameful informality. And very recently I saw a poor creature with a slowly failing heart and swelling legs who with the tincture of iodin had painted a garter about her leg in the vague hope that this might prevent 'it' from crawling up to drown her."

It was on some such notion, he thinks, that the old practice of bleeding, salivating, and giving repeated purges and emetics was founded. Up to very recent years, he says, intolerable drugs were put into the body "with a more or less definite idea of making it untenable to any other spirit than the owner, and the practice was carried so far that it was oftentimes a very nice question whether the landlord of this house of clay—the Ego himself had not better move out and find quieter quarters. The notion of exorcising disease, Dr. Milliken imagines, has infected the surgeon, who "carries his voodoo in a dredging-box and calls it iodoform." "He doesn't precisely say that it is a lucky thing to use, though that is in his heart of hearts." "Press your surgeon hard enough and he will tell you that iodoforms slowly give off iodin in the wound or on its edges, but he will not tell you why it is better than other substances which do the like, nor will he impart to you a reason why he does not use iodin itself in known quantity."

After picturing the humoral pathology as "only a higher form of personification of the morbific principle," which "substituted a vague and shadowy entity for the half corporeal demon which had haunted pathology for so many centuries," Dr. Milliken says: "We do much better now. We have a pathology of the zymotic diseases which is harmonious and strictly scientific and conformable to the true spirit of induction. But it falls in my way to say, to-day, that it is not at all to the credit of our craft that the old credulity breaks out anew with every announcement of progress in bacteriology; greedy, gulping acceptance of principles, unproved and half proved, in bacteriology is the disgrace of the day; most of us have been obliged to change front three times on the bacteriology of diphtheria, and it is certain as death and taxes that we shall play the jumping-jack through future years if we do not, after the manner of scientific men, receive valuable hypothesis as hypothesis."

But it is not Dr. Milliken's opinion that, judged as a whole, the medical profession is credulous; its genius, he does not doubt, will meet and neutralize the evil tendency to credulity, for "it has ever been the proud boast of the doctor that he has dissipated doubt and superstition, has gone far beyond the bounds of his art to bring certainty and scientific apprehension to the world."

1 Editorial in *New York Medical Journal.*

Influence of the Nervous System in the Production of Some Skin Diseases.[1]

Drug eruptions are generally of the class of nervous diseases. The drugs seem to act in a poisonous way on the nervous system and through the nerves governing nutrition cause various lesions of the skin, such as urticarias, erythemas or inflammations of the skin. The vaso-motor nerves control the circulation by their action on the muscular part of the blood-vessels, and consequently affect the nutrition of the skin. These nerves belong to the great sympathetic system, which system is very closely connected with the cerebro-spinal system. Thus we may see why a food or a medicine having a toxic effect on the nervous system profoundly affects the skin and causes the appearance of a variety of lesions. This we find not simply as a theory, but as a fact, verified in our daily practice. Eruptions caused by the use of such drugs as the bromids and iodids, are more frequently seen perhaps than others and are consequently more easily recognized. Moreover, they generally make their appearance as an acne and do not cause a great amount of worry. Eruptions from some other drugs, which are used in daily practice, are not so frequently seen and not as easily recognized. When taking the form of an erythema or a dermatitis, they may be mistaken for a scarlet fever or some other disease of a graver nature than the eruption really is.

Quinin is sometimes the cause of an acute eruption. Each individual subject to this influence of the drug has a certain form of eruption, which form of eruption is always taken when the drug is used, only differing perhaps in severity according to the amount used. Some individuals show a large urticaria and others a small one. Some show an eruption resembling measles, others a simple erythema, and some decided dermatitis. A little patient of mine proved so susceptible to the drug as to have a violent dermatitis from a moderate dose of it. It was used first as an inunction, and we concluded the cause of the redness appearing was from the local irritating effects. An ordinary dose was given internally, which caused a much more violent dermatitis. The skin of the entire body was much thickened, hot and very red. The temperature of the skin was elevated to 102°, and the burning, itching sensation made the little patient perfectly wild. Simple applications to relieve the child, and withholding the drug, entirely permitted the inflammation to subside in a short time.

Many articles of food cause skin eruptions in some people. Their manner of producing these results is not materially different from the drugs we have just been considering. An impression, toxic or otherwise, is made on the nervous system, by which it is communicated to the skin and manifests itself as a skin disease. We will generally find there is a faulty digestion of the food which causes the eruption. We find urticaria of some form much the more common eruption from this cause. A young man was under treatment for a pruritis affecting principally his legs below the knees. It had existed four years or more and proved quite annoying to the patient. Observation of the legs showed lesions, solutions of continuity, but evidently nothing except what was made by scratching with the nails, on account of the pruritis. The itching was quite severe at times, not so bad at others, but never entirely disappeared. He had used many remedies, both external and internal, without any apparent improvement. Close observation of this case for a short time convinced me that the cause was to be found in some article of food of daily use. While watching the case and trying to figure out what article of food was causing the difficulty, he came in and reported quite comfortable legs, as they were not itching as usual. Inquiry as to diet showed that this time being Lent, he was eating very little, if any, meat. This was a piece of knowledge too valuable to be lost. Meats and fats were removed almost completely from his diet and his pruritis ceased to trouble him so long as he held to this diet.

Another case of a similar nature is that of a physician of this city. He ascertained that juicy fruits, such as apples, oranges, grapes and even toma-

[1] William Frick, A.M., M.D., Lecturer on Dermatology, Kansas City Medical College.

toes caused a pruritis, mainly located below the knees, but at last extending upwards to the hips. The itching was so severe at times it woke him up nights. He remembered there was some of this trouble in spots on the calves of the legs when he was a boy of fifteen or sixteen. After he became a physician, he found out that when he was eating these juicy articles the trouble began and when he quit using them it stopped. Ointments or other medicines did nothing more than slightly palliate.

These last two cases would be called reflex manifestations. This simply means that the irritation is somewhere in the nervous system and is referred to the cutaneous distribution of the nerves affected.

We are coming to appreciate more and more the part the nervous system plays in not only subjective symptoms, but also in the lesions which take place in the skin, and why not? When we consider the perfect control of cutaneous circulation is through the nerves distributed to the vessels, we should not be surprised at lesions due to disturbed nutrition. When we study the glandular system of the skin, we find that every sebaceous gland and every sudoriferous gland is supplied with nerve filaments, and through these the work of secretion of the gland is carried on and controlled. No wonder then we sometimes find disturbed conditions of nervous centers giving rise to diseased conditions of these glands.

A Case of Precocious Menstruation.[3]

I have under my care such a remarkable case of precocious menstruation, that I feel it my duty to report it to the profession. In looking up the history of precocious menstruation, I find but little concerning it, and no case so remarkable as the one I have under my observation.

On October 10, 1895, I was called to attend Mrs. N., in labor. She is of a German family, well formed, strong and vigorous. This was her second labor, the first child having been a boy—a fine, vigorous child. At about five A.M., Mrs. N. was delivered of a girl infant, weighing nine pounds and normal in physical condition. On the morning of the 17th, I was called to see the baby. I found the infant in good condition, sleeping well, and taking its nourishment as it should. I was told by the mother that upon her usual examination of the child that morning she noted a bloody discharge from the vagina. Upon examination, I found the condition as the mother had described it. The child seemed in no way disturbed. The flow lasted four days. In December, the flow did not return and the child suffered with all the nervous phenomena that usually accompany the missing of a period in an adult, and she broke out from the top of her head to the soles of her feet with an eczema that persisted for some time, but gradually subsided. Her mother attributed the non-return of the flow in December to a rather cold bath the day before the flow was expected. Since December, the flow has returned with perfect regularity, and the child is in good health, skin fair and clear, eyes bright and intelligent. The breasts and mons Veneris in the child are considerably developed, and during the flow the breasts enlarge and are somewhat sensitive to the touch. The mother's menstrual period was established at the age of thirteen years.

[3] Prof. J. W. Irion, in *Medical Mirror.*

Dirty Thermometers.

How frequently we see physicians, says *Medical Age*, take the temperature of their patients, regardless of existing disease, wipe the instrument with their handkerchief—an article most likely to be full of germs—or a towel, or even use the corner of a sheet, then carefully place it away in a case holding a small amount of absorbent cotton to keep it from breaking, which latter is specially apt to preserve germs ready to be conveyed to the next unfortunate upon whom the thermometer may be used.

The bladder, when partially paralyzed from parturition or any other cause, can always be made to empty itself perfectly by throwing a large amount of very warm water into the bowels, thereby doing away with the necessity of using the catheter—a most important consideration, particularly when the patient lives at a distance from the doctor.—*Medical Times.*

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, OCTOBER 10, 1896.

EDITORIAL.

ABSORPTION vs ASSIMILATION.

In the introductory address, (appearing elsewhere in this issue) made by Dr. Elizabeth R. Bundy of this city at the opening of the Women's Medical College, points were touched upon of interest to more than the undergraduates who were chiefly addressed.

That too much of the education of today, under the various cramming processes in vogue, is more absorptive than assimilative few will deny, and nowhere is this fact more patent than in the average college for the study of medicine. The chief thought of the student seems to be to memorize as many facts as possible, regardless of the steps by which they became known or of the conclusions which may be deduced from them as premises. Too often such "knowledge" will prove of avail to pass examinations with credit even, but almost without exception, students who graduate brilliantly by virtue of their great absorptive powers, form a large proportion of the mediocre class of the profession and also of those who drop medicine for other pursuits.

Their medical education consists of a miscellaneous assortment of heterogeneous facts, ready to spring to lip at the sesame of a question, a certain glib readiness in professional terms, and great proficiency in quoting authorities. They

alternate between the two extremes of rejecting all new discoveries with conservatism and suspicion because they do not agree with the facts they learned when at college, and enthusiastically accepting without reserve every new promulgation as absolute because their whole idea of progress is the committing to memory and this is but another form of that process. They begin their careers with the brilliancy of the rocket, and also, unless they have the necessary influence to elevate them into some professional chair, they end with the obscurity of the rocket stick. Sometimes such do hold positions of eminence, obtained through pulls political and otherwise, and they are the worst drags that the profession has upon its upward path, though they flourish in emolument and honor still through the process of absorbing the ideas and discoveries of the true man of science.

On the other hand the student who assimilates, recognizing study as but a foundation upon which a fairer superstructure of excellence is to be reared, may not always be letter perfect in quizzes, and only unfrequently has the magic words *cum laude* attached to his degree. Still, searching the annals of medical literature, we find that the steady progress of medical discovery has been mainly due to the patient work of such, and that the men who rise step by step, unaided, to success, whose names become as household words among their conferes, rank among those, who, as students, absorbed less but assimilated what they did take in.

Here is the ground for the plea to make thoroughly one's own what one does acquire. If a student finds that the measure of his mind is but a pint cup and there is presented a mental feast of about a gallon, he should not overdilate and thus weaken the tone of the mind, but judiciously select what will develop mental force; take it slower and easier and in the end there will be no loss. If there was more stress laid just here, there would be fewer "half-way doctors" and more real physicians in practice.

It must be recognized, however, that reform must come from the college, more than from the student, untrained and bewildered with multiplicity of tasks, and judged through the amount of memorizing done. Let there be less rivalry to present to the laity an imposing course of lectures and ologies and other trimmings, crowded in the briefest possible time, and a greater striving for simplicity and thoroughness, and though there may be fewer M.D.s there will certainly be more physicians. The true solution of the problem of how to restrain the overcrowding of the field of medicine must consider this point as well as the raising of tuition fees and of the standard of matriculation requirements. Sift the would-be doctors thoroughly during the period of preparation, and let those whose minds are original and assimilative, if not largely receptive, have a better chance to come to the fore. In short, cram less, teach more.

Twin ectopic gestation is reported in the *American Journal of Obstetrics* by Minchard, who operated in the case September, 1895. The patient, aged twenty-three, had symptoms of rupture of an extra-uterine sac with severe hemorrhage. A fetus thirteen inches long was found in a mass of clot, and then a ruptured tube was removed. It contained a small and extremely flattened fetus, two and one-half inches long. The patient had not menstruated for nine months; the larger embryo was of the size of a six months' fetus, the smaller seemed to have only reached the third month of development. They were, in Minchard's opinion, the product of the single conception, the small fetus having been flattened by the larger. At the operation the opposite tube and ovary were found healthy. In April, 1896, the patient was four months pregnant.

ABSTRACTS.

A PRACTICAL CONSIDERATION OF GONORRHEA IN WOMEN*

Not less than 12 per cent. of all the women who consult the specialist, exclusive of prostitutes, have gonorrhea or its sequelæ. It is the cause of not less than 15 per cent. of all cases of puerperal fever. It is responsible for 70 per cent. of all cases of sterility in woman. It is the skeleton in many a family closet. Nœggerath was supposed to have exaggerated clinical observations until Neisser, Bumm, Sanger and Wertheim verified and vindicated nearly every assertion made in the modest little pamphlet of twenty-four years ago. What are the facts as now accepted?

The gonococcus of Neisser, in whatever diseased tissue present, is positive evidence of its gonorrheal origin. While the germ vegetates best within epithelial tissues provided they are delicate, soft and moist, it also proliferates within and on the peritoneum and induces inflammation in connective tissue. Dry horny layers of epithelium form an impenetrable barrier. It, therefore, flourishes in the vagina of young children and aged and pregnant women, but is rare in the same tissue of healthy adults. It thrives in the conjunctiva and mouth of the new-born and in the rectum of both sexes. Its presence in the urethra, the ducts of the glands of Bartholin, the vagina, the cervical canal, the uterine cavity, the tubes and on the surface of the ovaries causes inflammation of these organs. Its penetration into the lymph spaces produces broad-ligament infiltration, often leading to abscess. It can, by the same route, reach the hilum of the ovary and cause ovarian abscess without having passed through the tube. It can enter the circulation direct and reach remote organs, thus causing gonorrheal metastasis. The locations of choice are the urethra and the vaginal portion of the cervix.

A person may in time become accustomed to his own brood of germs, so that they may cease giving trouble. Let them be transplanted to new soil, they at once affect the recipient with pristine vigor. Now if these regenerated germs be returned to their original owner, they will imitate as vicious a recurrence as though they had never been there before. This is the explanation of "latent" and "recurrent" gonorrhea. Thus, too, a man and wife may finally become indifferent to their own germs, but a third party may be infected by either. This third party may in turn reinfect husband or wife, and these again one another. Chronic gonorrhea, therefore, affords no immunity against an acute attack. Infection may be propagated by other means than sexual congress in its natural or perverted forms. Towels, sheets, sponges, baths taken in common, infected instruments, contact with secretions at birth—all are known to have been carriers of infection.

In most instances of gonorrhea in women, we are called at a time when the disease has already developed a pelvic inflammation. The initial evidences about the vulva may have disappeared. When seen early, a little pus can be squeezed out of the urethra, and there is a redness about the mouths of the vulvo-vaginal glands. Urethritis does not seem to be nearly as painful as in the male, unless complicated by cystitis; nor is it as tedious. The red spots in the fossa navicularis may persist and furnish a clue to the identity of the disease when other symptoms have entirely vanished. Gonorrheal vaginitis is rare except in young girls, the aged, and when contracted during pregnancy. The vaginal mucosa, possessing tough epithelium convertible into epidermis, resists the invasion, except when constantly bathed by the discharge dripping from the cervix above. In acute vaginitis, the mucous membrane is highly injected, swollen and tender. There is

*Marcus Rosenwasser, M.D., Professor of Gynecology and Abdominal Surgery in the Cleveland College of Physicians and Surgeons, in *Cleveland Journal of Medicine.*

a copious yellow or greenish-yellow discharge, sometimes tinged with blood. Examination causes considerable pain.

In women of unclean habits, the discharge causes irritation and swelling of the vulva and may infect the rectum. Not a few cases of anal fistula and rectal stricture in both sexes have their origin in gonorrheal infection. When inflamed, the vulva is constantly smeared with a copious sticky muco-pus of characteristic odor. A similar layer of ropy muco-pus on the cervix is a reliable clinical sign of gonorrhea, even when other landmarks are missing. The germ may long lurk in the crypts and folds of the cervical canal without ascending into the cavity of the uterus, causing a muco-serous discharge only. The introduction of a sound, or the use of cutting instruments about the parts, or any disturbance of the quiescent state may rapidly light up a peritonitis. Many a supposed puerperal sepsis may originate in this manner. The presence of the gonococcus in any of these secretions, as demonstrated by microscope and culture test, is proof positive as to the gonorrheal origin of the inflammatory and suppurative diseases in the pelvic cavity. Specific puerperal fever is usually distinguished from that of septic origin by later appearance, more tedious course, greater liability to recurrence and safer termination as to life.

Tubal infection is frequently followed by sterility. When not entirely closed, the tubes may be more or less crippled and may become the seat of ectopic pregnancy. Uterine gonorrhea is characterized by menorrhagia, dysmenorrhea, leucorrhea. It often causes repeated abortions, occasionally premature labor. While infection of bladder, kidneys and rectum is common to both sexes, the frightful consequences and untold misery of pelvic peritonitis and suppuration, and of puerperal sepsis have no parallel. Indirectly ophthalmia neonatorum and the specific vaginal infection of little girls seen especially among the filthy, can be permitted to follow in the wake of this procession of afflictions.

Time was when the diagnosis of specific salpingitis, or of pyosalpinx implied the verdict, laparotomy. We have so far recovered from this dictum of earlier days, that each case is now judged without reference to class and is treated according to its individual indication.

Our efforts and measures for limitation and protection ought to be increased and improved in accordance with the well-known character of the disease. The sanitary supervision of prostitution has hitherto failed because of crude and incomplete methods. Those who are infected, men as well as women, ought to undergo proper treatment with prolonged subsequent observation before sexual relations are resumed. Marriage ought to be prohibited in case a complete cure cannot be effected. The physician should be scrupulously careful lest he convey germs by unclean instruments or hands. He should exercise the necessary precaution at childbirth to protect the babe against maternal infection. His instructions should be explicit and rigid to protect the children against all forms of contact in event of gonorrhea of either parent.

The Herculean task of prevention rests largely on our shoulders as medical advisers. In family life, gonorrhea is usually introduced by the diseased husband, either on the nuptial night or after sexual abstinence caused by absence, sickness or parturition. The bride, wife or mother comes to us in her innocence and ignorance often too late to avert the havoc wrought. We are even obliged to keep from her the real cause of her trouble. The male is the party to look to for redress. When he is infected, it does not take long for him to find it out, nor do we keep him in ignorance when, sooner or later, he is obliged to present himself for treatment. Whether he be a young man or erring husband, the culprit is for the time our prisoner. Here is our opportunity to impress upon him the evil consequences of infection. Dr. R. B. Hall says: "The family physician should impart knowledge upon every legitimate occasion upon the subject of gonorrheal infection. He should instruct the parents of boys, and the young men themselves, of the great danger to the health of their future wives should they contract gonorrhea. When we appreciate the fact of the great delicacy and hesitancy on the part of parents in talking

about these subjects to their sons, we begin to realize what an enormous subject we have before us. But it is a just and righteous one, and one that is bound to be thoroughly aired by the laity in the near future. The sooner the medical profession does its plain and whole duty in the matter, the better for us all. It is within the recollection of the majority of my hearers when we, as college students, were taught that gonorrhea amounted to but little more than a cold, and could be cured in nine days by a little balsam of copaiba and a mild astringent wash. We need not wonder at the position the laity take on the subject. These older teachings must be revised and the laity must receive instructions through the family physician. We should teach that gonorrhea is more destructive to woman than syphilis.

"When the laity become educated upon this subject as the profession now understand it, the abdominal surgeon will make fewer sections for these preventable diseases than he is now doing, and a corresponding amount of misery and death will have been prevented."

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, September 23, 1896.

The Second Vice-President, Dr. Thos. J. Mays, in the chair.

Dr. E. E. Montgomery read a paper entitled

"The Treatment of Retrodisplacements of the Uterus."

[See page 460.]

DISCUSSION.

Dr. G. E. Shoemaker said that in considering the treatment of retroversion great care must be taken to determine whether or not the retroversion is the cause of the patient's symptoms. In many cases these are due to displacements of the ovary secondary to retroversion, to a relaxation of the broad ligaments, with a resulting venous congestion and a condition of edema and impaired circulation of both uterus and ovaries. If such steps are not taken as will replace the ovaries any treatment of the retroversion will be useless. The pessary is at best a temporary expedient and most men are trying to do without it as far as possible. It is never of use where there are adhesions and that is a point that is frequently lost sight of in attempts to use it. To this is due a large number of failures. The pessary is, however, useful in a small number of comparatively acute cases as a temporary expedient to hold up the uterus until involution can take place. When it comes to the permanent treatment of retroversion the question of the absence or the presence of fixation by adhesions must be determined, and it is a most important point. If adhesions are present such an operation as shortening the round ligaments is useless, and the pessary is useless. We are obliged then to do some cutting operation which opens the abdomen, frees these adhesions and then corrects the displacement. In Dr. Shoemaker's judgment the best operation for this is ventrofixation of the uterus, This designation is a misnomer. The operation is not one of fixation but one of support; we form a band about three-quarters of an inch in length and of about the thickness of a lead pencil or smaller, which allows free movement of the uterus but prevents its falling backward and the consequent relaxation of the broad ligaments. It assists in the maintenance of the ovaries in their position. This fixation of the uterus has been said to interfere with pregnancy and there have been some cases reported of difficult labor. In Dr. Shoemaker's judgment this difficulty can be very largely obviated by putting the sutures in front of the line of the tubes instead of behind that line. This allows the fundus of the uterus to enlarge upward into the abdomen without making extreme traction at the point of attachment. If one ties down the top of the fundus by sutures behind the line of the tubes only the posterior wall can enlarge upward during pregnancy. Dr. Shoemaker had two cases in which pregnancy occurred and in neither had there been serious trouble. He had done the operation many times. In one of the cases of pregnancy sterility had existed for seven years, disease of one ovary and tube with bifid uterus complicating the retroversion.

In Dr. Shoemaker's opinion vaginal operations are not usually advisable. In the first place, if the bladder is stripped off the uterus and this wound is allowed to granulate there is produced cicatricial tissue in a region which is exceedingly sensitive to traction, the base of the bladder. The operation is to a certain

extent a blind one. The same objection applies to vaginal operations behind the uterus, especially if gauze is used and healing is obtained by granulation, which results in thickening. Dr. Shoemaker had had a great deal of trouble in cases with old cellulitis about the utero-sacral ligaments and he would hesitate to form scar tissues in such an unfortunate place.

The Alexander operation is useful in a very few cases with freely movable uteri, but Dr. Shoemaker would further limit the operation to cases in which there is no descent. The Alexander operation has little effect in actually holding the uterus up into the pelvis.

DR. J. M. BALDY maintained that retrodisplacements that cause suffering are almost always complicated, and complications of any kind whatever are contra-indications to the use of a pessary. A large number of retrodisplacements are unattended with symptoms and require no gynecologic treatment whatever. If a pessary be employed when a complication exists, the patient will, in a very large number of cases, not be cured and may even suffer an infinite amount of harm. The pessary, as well as minor operations, is responsible for a considerable number of cases of pelvic suppuration. Too often the complication is ignored while the retrodisplacement is recognized.

The use of the pessary may further be followed by the so-called "sore pelvis," in consequence of which many women's lives are made wretched.

The pessary has practically gone out of existence in the armamentarium of the nineteenth-century gynecologist.

Dr. Baldy characterized massage of the uterus as a mere refinement of masturbation. In his experience, it had done only harm. It is without use, except when a great deal of lymph is thrown out into the pelvis, when it may help stimulate absorption by gentle friction. To go beyond, would be to force the patient into more extreme inflammation and even into suppuration.

The disadvantages and actual harm resulting from the measures already mentioned leave practically only surgical treatment. When retrodisplacements are attended with symptoms, complications exist, and if these are ignored, little or no good can be done for the patient, while harm may result. The subject of surgical methods is yet an open one. There are but two operations, perhaps, that are worth considering—hysterorrhaphy and Alexander's operation. The rest are distinctly and absolutely bad. All of the vaginal operations are exceedingly dangerous. There is very little risk primarily, but the secondary effects are most disastrous. Cesarean section has been necessary to deliver patients thus operated on in whom the previous confinements followed a normal course; at times with death. Version and minor operations have been necessary sometimes in the same classes of cases. Of the two operations, hysterorrhaphy is decidedly the better procedure. It is, however, performed much oftener than it should be. The Alexander operation has a more limited field and for the same reason as the pessary—that is, the symptoms are always due to the complication and not to the displacement. The Alexander operation is followed by adhesions that give rise to bad symptoms. Even the advocates of this procedure admit that cases in which adhesions exist are not suitable for operation. It is often extremely difficult to determine whether or not adhesions exist in a given case. Hysterorrhaphy seems to be the best measure available at present, although attended with many dangers.

DR. J. M. FISHER also agreed that there are few cases in which the pessary is at all useful.

In case of retrodisplacement of the uterus, the first question that should be asked is, What is the cause of the retrodisplacement? There has not been sufficient said of late years upon the prophylactic treatment of retrodisplacements. We know that the majority of displacements originate in the puerperal state. For example, laceration of the pelvic floor takes place and leads to subinvolution of the vagina and of the utero-sacral ligaments, and this continuing at the time the patient rises from her bed, the uterus drops downward and backward out of position. Although these organs may even undergo involution, a laceration of the pelvic floor generally involves tearing of the muscle, which controls closure of the vagina. The levator ani muscle passes down along the sides of the vagina and around the posterior surface of the rectum, coalescing with the longitudinal muscular fibre and sphincters of the latter, and during defecation it serves the purpose of bringing counterpressure to bear in extrusion of material from the rectum. As it is the rule for women to be constipated, especially after having borne one or more children, considerable effort is necessarily brought to bear in defecation, so that the uterus, under these circumstances, is forced down into the axis of the vagina. The latter being relaxed, because of want of support, the body of the uterus is tilted back, and the intra-abdominal pressure being directed against its anterior surface, adds insult to injury. If this is frequently repeated, retrodisplacement results as a permanent condition. Retrodisplacement occurring in this way cannot exist for a long time without inflammatory conditions of the uterus, as well as of the appendages arising because of the want of proper circulation in the pelvic structures. The pelvic veins are valveless and very tortuous, particularly the veins that pass through the pelvic floor. When a rupture takes place in the pelvic floor, these veins are drawn out and straightened, and the resistance that is normally offered to the force of gravity is removed. As a result, the vessels become dilated and varicose, and passive congestion of the organs takes place, and this, as is well known, is the first stage of chronic inflamma-

tion. Another factor in the puerperal state that is likely to give rise to retrodisplacement is a full bladder, or a full bladder in connection with a full rectum. Women are often allowed to go three or four days after confinement without a movement of the bowels, or a whole day or even a day and a half without having an evacuation of the bladder. When a woman is suffering from a distended bladder, as well as a full rectum, and in addition wears a tight binder, pressing the uterus into a posterior position, the organ being much enlarged and undergoing rapid involution, this condition, if maintained even for a few days, will determine a permanent posterior displacement of the uterus because the uterus, with its supports, will accommodate itself to the new position. Much, therefore, can be done during the puerperal state to prevent the occurrence of retrodisplacements by sewing up lacerations promptly, by seeing that the bowels are emptied early, by attending to the evacuation of the bladder, and especially by not allowing the patient to wear a tight binder for eight or ten days. A binder should not be worn longer than twenty-four hours after confinement. Septic processes, as a matter of course, should be combated early. If the uterus is not in proper position, it should be replaced and be held in place by a properly fitting pessary. When a retrodisplacement exists, the uterus being movable and the woman becoming pregnant, or when a retrodisplacement occurs several days after confinement, during the process of involution, a pessary may be of use.

Dr. W. Easterly Ashton said that from a clinical standpoint, he divided all retrodisplacements, whether they were versions or flexions into three varieties: First, those that are recent; second, those that are chronic; third, those that are attended with complications. He held that in recent cases and in thoroughly uncomplicated cases a pessary is the only form of treatment available. Thus after the puerperal period a woman with a perfectly normal pelvis may have a retrodisplacement, the utero-sacral ligaments being elongated a pessary be introduced, the weight is then taken off these ligaments and they have a chance to regain their normal tone and to contract and the uterine displacement is relieved. Just such cases are occasionally seen in recent and uncomplicated state and they can be permanently cured by the use of a pessary. The number, however, is but a very small one. If an acute case is not relieved in the course of time by the use of a pessary, it then becomes an uncomplicated chronic case, and for this there is but one form of treatment. All cases, however, do not need treatment because all retrodisplacements do not give rise to symptoms. For those cases with symptoms as a result either of pressure or of interference with the circulation and for those characterized by a neurasthenic state, Dr. Ashton has but one treatment for and that is a surgical operation. Under these circumstances a pessary is not of the slightest use. Neither are gauze tampons because after the case has existed for a certain length of time the utero-sacral ligament has undergone fatty degeneration and will never perform normally their functions. Dr. Ashton never performs the Alexander operation because he does not believe that it will hold the uterus in place. This is especially true in those cases in which the round ligaments have been stretched for a long time and have undergone fatty degeneration. When the operation has been performed under these circumstances the uterus sinks again in a short time on account of further relaxation of the ligaments and the case is in the end as bad as in the beginning.

From a large experience, Dr. Ashton concluded that the operation of ventrofixation is the most satisfactory in the whole range of gynecology. As performed to-day there is no other operation attended with the same brilliant results. Dr. Ashton attached little importance to the reports of bad results and complications following ventrofixation, maintaining that the operation as performed in the United States is rarely done properly. If in a ventrofixation the sutures are passed through the fundus of the uterus and are then carried through the peritoneum, muscle and fascia and are then tied leaving them buried the operation results in an absolute fixation of the uterus and it is incapable of yielding. If the sutures are passed directly through all the structures of the belly wall the connecting band between the uterus and the parietal wall is so intimate and so strong that it virtually becomes a fixation. If an operation, which is faulty in its technic produces a true fixation there is certain to be trouble in future parturitions. If the operation is done properly, and it is almost as delicate in its technic as are some operations about the eye, the result is a ligament so delicate as not to interfere in the slightest degree with parturition and strong enough to act as a guy rope to keep the uterus in an anterior position.

In chronic cases it is necessary either to do something radical or to fall back upon the old plan of treatment by means of pessaries or plastic operations. None of the plastic operation devised upon the vagina or perineum is alone of the slightest use in correcting displacements.

In cases which are complicated, conditions apart from the retrodisplacement must be dealt with. If adhesions exist, the displacement is secondary; also, if an enlarged ovary or pustube is present, the displacement is secondary. These complicated cases are not to be viewed as examples of true retrodisplacement, nor to be approached clinically as such. But simply to be considered from the standpoint of a gross pelvic lesion. In a case complicated by adhesions these are broken and ventro-fixation is performed. When ovaries or tubes are diseased and require extirpation on both sides attempts at ventro-fixation of the uterus alone will prove useless. The best operation under

these conditions is supravaginal hysterectomy.

DR. G. BETTON MASSEY contended that the pathology of inflammation as understood to-day assumes the necessity of microbic invasion. Two conditions are necessary for the occurrence of an inflammation: a deficiency of resistance on the part of the tissue and the presence of a germ; but nothing is said in pathology about an organ being out of place or about valveless veins. Mechanical views of treatment are the natural result of looking upon the mechanical deviation as the important point. The initial trouble in all cases of retrodisplacement is the inflammation of the uterus. The suffering is due not to a deviation but to an inflammation and its consequences, and the proper treatment is to get rid of the inflammation. The deviation from the normal position is merely a deviation of the position of an organ that is freely movable in the natural condition. The fault is therefore not the deviation, but the inability of the uterus to get back to its proper position by reason of the inflammation and added weight. The ligaments have also suffered from inflammation and have undergone fatty degeneration. The proper course of procedure should be the treatment of the inflammation, the reduction of added bulk, the absorption of adhesions so far as they can be gotten rid of, and the stimulation of the muscular supports. It is not necessary to tear apart the adherent surfaces. Who would think of tearing loose the adherent lung from the chest in an old case of pleurisy? Will not the surfaces so torn apart always unite? Pessaries ought not to be used for the further reason that even in acute cases they so dilate and distend the vagina, interfering with the natural action of muscles, as to render these incapable of performing their functions subsequently. Pessaries may be necessary in very old women who have already used them for years, and are amenable to no other measure. In Dr. Massey's opinion the best means of treatment is to stimulate the metabolic activities of the tissues through applications of electricity inside of the pelvis.

DR. J. M. BALDY said that if the broad ligament is twisted on itself and carries the uterus and ovaries with it, the twist in the broad ligament will hold the fundus of the uterus posterior. Under such circumstances, relief from the acute suffering can be secured by replacing the uterus, when the broad ligament will untwist itself and the uterus will remain in place without any aid. In chronic cases, if fatty degeneration in stretching has taken place when the uterus is placed forward again, the broad ligaments will not hold it in position.

If the displacement be seen within the first week of its occurrence, and the uterus be replaced, a cure can be effected without the use of any support whatever, unless it be a soft wool tampon, keeping the patient quiet. A pessary, in some of these conditions, will tend to bring about displacement or relaxation of ligaments by taking away from the ligaments their natural work, on the same principle that any tissue will undergo atrophy when not in use. No pessary introduced into the vagina will touch the fundus of the uterus when the uterus is in its proper position. Unless the pessary perforate the posterior cul-de-sac and enter the pelvis, it only gives support to the uterus by indirect pressure. The principal good a pessary will do, it effects by lifting the uterus up from below. In the acute cases, a wool tampon does this even better, with less chance of harm. The fact that the pessary is hard is an objection rather than a recommendation.

DR. G. G. DAVIS expressed the opinion that the uterus, instead of being suspended by the utero-sacral and utero-vesical ligaments, practically floats in the pelvis, and that the ligaments probably prevent its being displaced posteriorly. At all events, when it is pushed posteriorly, fortunately the ligaments are put upon the stretch. The pathology of retrodisplacements is probably to be sought in some of the alterations of the pelvic floor rather than in the ligaments. If the uterus were supported from below, any alteration or disturbance of the pelvic floor would naturally allow it to be displaced to one side or other, or forward or backward. Such alterations could readily occur in labor, followed by laceration of the perineum and other injuries.

DR. W. S. STEWART found in the garments worn by women and the method of dressing the principal cause of all retrodisplacements. Woman's waist has of late years been pushed down as low as possible and then constricted to the utmost degree. As a result, the abdominal contents undergo compression and displacement and the pelvic organs have their normal relations altered. When lacerations attend labor, the base of the pelvis gives way and further displacements result, not only in prolapse, but also in retroversions.

DR. P. FISCHELIS said that many of the cases met with in general practice do not require operative interference. Displacements of the uterus arise also independently of the puerperal state.

DR. E. E. MONTGOMERY added, in closing, that the pessary is especially of advantage in cases of retrodisplacement of recent occurrence. Thus, in a woman shortly after confinement, with a uterus retrodisplacement and subinvoluted, the organ is heavy and remains subinvoluted as a result of the displacement, with more or less relaxation of the pelvic ligaments. If the organ is freely movable, it may be replaced and supported temporarily by a pessary, and through the higher level thus obtained, the process of involution will be completed and the patient will in a short time be able to do without the artificial support. The uterus does not rest upon the posterior bar of the pessary. Anyone who introduces a pessary expecting it to lift up the

uterus by pressing against its posterior surface converts a version into a flexion, and with the organ compressed between the posterior bar of the pessary and the anterior surface of the sacrum, the distress of the patient will be greatly increased. The failure to replace the uterus prior to the introduction of the pessary has been one of the causes of added trouble and distress rather than relief. The Alexander operation is necessarily of limited application, which should only be used when the uterus is freely movable, and can be readily replaced and maintained in its normal position without difficulty. If the displacement returns immediately after the removal of the restraining force, there exist bands of adhesion between the uterus and the rectum.

The objection to ventrofixation, that it forms a band between the uterus and the abdominal wall, which may subsequently interfere with the processes of gestation and parturition, is a legitimate one. If the union is made between a small portion of the uterus and the peritoneal wall, this band will elongate and the patient will be less likely to suffer in subsequent gestation and parturition.

Dr. Montgomery introduces one suture about the centre of the fundus, in the transverse line, and a second suture just behind this, so that, practically, the uterus is brought into a state of anteflexion.

Massage properly employed is an aid in bringing about absorption of exudation and separation of adhesions, and relieves patients who would otherwise necessarily be subjected to operative procedure. It is a matter of regret that the surgeon cannot always imitate nature and reinforce the ligaments which suspend the uterus in its normal situation. Normally, the uterus is not in a fixed position; it moves about through a number of degrees—backward, forward, from side to side, upward and downward. If, however, the womb is the seat of a lesion that leads to its displacement, whether a bad laceration of the perineum or fatty degeneration of the muscular structures, whatever the cause, it is impossible by any other method of procedure to restore these tissues to their normal position and to sling the uterus once more in its normal place; consequently, it is necessary to do the best one can to place the organ in that situation in which it will give as little discomfort as possible to the individual, in which its circulation will be promoted and favored, and in which an inflammatory exudate and enlargement will be absorbed, and this is accomplished most effectually by one of the methods of fixation named.

While there is need for an operation that will not interfere with the subsequent processes of the individual, and that will aid in restoring her to as nearly a normal condition as possible, no method of procedure is as likely to afford greater relief than is procured through the operation of ventral fixation. The operation is, however, applicable only in a limited number of cases. In some cases, it is possible that the operation of fastening the round ligaments in front of the uterus will serve a useful purpose. It will not do so in every case, for the reason that the ligaments frequently undergo such changes from the long-continued duration of the displacement, that they do not afford sufficient resistance to serve the purpose.

Dr. J. M. Fisher presented a

Specimen of Multiple Fibroid of the Uterus

removed from a patient fifty-two years of age, two days previous. The woman had been suffering from abdominal pain for a number of years and other symptoms referable to disease of the pelvic structures. Previous to the discovery of the tumor she had been confined to bed and placed on the rest-cure for about six months.

The fibroid condition was complicated by the presence of an intraligamentary cyst upon the left side. Inflammatory disease of both appendages was likewise present. Some difficulty was experienced in dissecting out the cyst. In removing the tumor the cyst was incised on one side, and it was at first thought that the bladder had been penetrated.

After the operation the patient did well and was getting along very nicely, the temperature having declined to 99.5°, circulation being good.

Local Treatment of Diphtheria with Sodium Hyposulphite.

Dr. Henry A. Wickers states (*Lancet*, June 6, 1896) that he has for some time been using a solution of sodium hyposulphite as a local application in diphtheria, and has been well satisfied with the results—three or four applications having generally been sufficient to clear away the false membrane. The solution is prepared for use by mixing equal parts of pure glycerine and a saturated solution of hyposulphite of sodium in water, and is applied with a brush to the exudation and inflamed fauces once or twice daily, or as often as may be deemed necessary. The glycerine, by its adhesiveness, keeps the solution longer in contact, and also by its well-known local action helps to relieve that engorgement of the mucous membrane which seems specially favorable to the growth of exudation. It is probable that the hyposulphite has a continuing action as a germicide, in the following manner: Chemical decomposition is first set up by contact with the acid secretions of the mouth and throat, sulphur and sulphurous acid in a nascent state being set free; the latter, being gradually converted by oxidation into sulphuric acid, would in the same manner decompose further portions of unchanged hyposulphite, and so on until the hyposulphite was exhausted. Of course, this local treatment will not interfere with the general treatment, which must be adapted to the necessities of each individual case.

PERISCOPE.

MEDICINE.

Treatment of Chronic Gouty Affections.

Murrell (*Lancet*, June 6, 1896) has successfully treated the acute manifestations of chronic gouty affections by a local application for which he gives the formula in full. He takes half an ounce of iodide of potassium, dissolves it in half a pint of rectified spirit—methylated spirit is used in hospital practice—adds one ounce of soap liniment, and then half a drachm each of oil of cajeput and oil of cloves. A piece of lint is soaked in this mixture, wrapped around the affected parts, covered with protective, and kept in place by a bandage. It acts as a powerful counter irritant, and the inflammation usually subsides in from twelve to twenty-four hours. In addition, he not uncommonly gives a drachm of colchicum wine with ten grains of iodide of potassium three times a day. These large doses of colchicum wine induce brisk purgation, sometimes accompanied by vomiting, but they speedily cut short the attack. This mode of treatment is especially useful in cases of robust, full-bodied men in active employment, to whom the loss of a day's work is a serious consideration. In sciatica, lumbago, and rheumatism affecting one joint, the local application of a liniment containing half an ounce of salicylate of sodium, half a drachm of cajeput, fifteen minims of oil of eucalyptus, and half an ounce of soap liniment in six ounces of rectified spirit affords prompt relief.

Cerebral Manifestations of Lead Poisoning.

Davidson (*Liverpool Med.-Chir. Journ.*, July, 1896) reports a painter, aged twenty-three, who had worked on board ship almost exclusively with white paint, noticed about a month before his admission into hospital that he was unable to fasten the buttons of his clothes on account of tremor of the hands. Three weeks after he had an attack of colic. He had had temporary loss of vision on several occasions, and occasional loss of speech. On January 31st he felt a slight pain in the head, which grew more severe, so as to cause him to cry out, and on February 3d he suddenly became unconscious, and was convulsed, the attack lasting three minutes. Half an hour after he had another similar fit. When admitted, the patient was of a pale, sallow complexion, had a marked blue line on the gums; was drowsy, irritable, and childish in his manner, and complained of pain in the head. He refused to take food, and resisted attempts to feed him, attempting to strike and bite the nurses. He turned in bed from side to side, jerking his head forward, his behavior suggesting an hysterical condition. Severe frontal headache prevented him sleeping. There was no paralysis; the superficial reflexes were lively; the knee-jerk was exaggerated, but there was no ankle clonus. There was marked tremor of the eyelids and slight tremor of the hands. The tongue was slightly coated, the breath was offensive, and the bowels were regular. The pulse was 48, the valves of the heart were normal, and the organ was free from hypertrophy. The urine was high-colored, sp. gr. 1029, and faintly acid; it contained no albumin; urea 2.9 per cent.

The patient continued to have attacks of convulsions, and though drowsy, complained of frontal pain. He was treated with potassium bromide and iodide, chloral hydrate and purgation. The optic discs were blurred and indistinct. The patient gradually became worse, and died on February 7th. The temperature was normal throughout until the day before death, when it rose to 100.2°.

At the autopsy no adhesion of the dura mater was found, but there was considerable injection of the pia, which, along with the arachnoid, at the base and over the cerebellum, showed a faint milky opacity. The brain substance was solid; the convolutions were a little flattened, and there were slight adhesions in the Sylvian fissures; the right ventricle appeared normal; the grey matter was rather thin, and the striæ not well marked. The stomach was intensely injected at the fundus, where there were a number of submucous hemorrhages; the jejunum was also congested in patches. Many of the liver cells were degenerated, and the organ was finely fibrous throughout. The kidneys were congested and tough, the capsule laminated, the cortex uniformly red; each weighed five ounces; microscopically, they appeared finely fibrous throughout.

A chemical examination of the brain was made by Mr. J. R. Johnston, who found that 50 grammes contained $\frac{1}{15}$ grain of lead, equal to $\frac{1}{75}$ grain of the entire organ. The liver and intestines contained small quantities of lead, the liver containing more than the brain.—*Med. Chron.*

THERAPEUTICS.

Thiosinamine for Inoperable Tumors and Cicatricial Contractures.

Tousey (*N. Y. Med. Jour.*, May 2, 1896) has been experimenting with thiosinamine, and studying its literature for over a year and a half, and he considers that "it possesses positive curative properties in causing the resolution of benign and malignant tumors, and the absorption of cicatricial tissue." Thiosinamine is, chemically, allyl-sulpho-carbamide, and its constitution is expressed thus—$CS<^{NH.C_3H_5}_{NH_2}$ corresponding to urea, $CO<^{NH_2}_{NH_2}$ in which the oxygen of the carboxyl group

has been replaced by sulphur, and one atom of hydrogen in the amine group replaced by the allyl radicle.

Thiosinamine is soluble in water, alcohol, and ether, but, like other mustard derivatives, it decomposes in aqueous solutions. Its first use in medicine was reported by Hebra in 1892; he had experimented with it in the hope of finding a cure for lupus. He used it as a hypodermic injection of a fifteen per cent. alcoholic solution into the muscular tissue between the shoulder-blades. He began with a dose of one-half to three-quarters of a grain injected twice a week. In lupus cases this was increased to one and a half to three grains twice a week, and even these large doses were well borne.

Van Hoorn has used a ten per cent. solution in equal parts of water and glycerine, which was found as active and not so painful as the alcoholic solution. Hebra rarely reached three-grain doses. Other observers have used four and a half grains as a regular full dose, but Dr. Tousey has never found it necessary to exceed one and a half grains. He made his injections into the muscles of the arm and forearm, and never found any ill effects arise. With the alcoholic solution a sharp pain is experienced lasting for less than a minute.

The author found, as Hebra had done, that it is desirable to discontinue the treatment for ten days every six weeks or two months.

Hebra and Van Hoorn have reported bacteriological experiments with thiosinamine which proved that the presence of thiosinamine in culture media retarded or inhibited the growth of micro-organisms, though even strong solutions did not kill the bacteria. Hebra studied the physiological effects on animals; on injecting three grains daily for a month into a dog weighing twenty-two pounds the dog remained perfectly normal, but became ravenous, and gained nine pounds in weight. On man the effect is that of a very mild tonic. If the subject is sound there are no symptoms produced, and if there is a lesion present the reaction which may occur is local, and is not accompanied by any general symptoms. There is in all cases a tonic effect with increase in weight. Hebra has noticed marked diuresis, which ceases after a number of injections. No renal symptoms have ever been noticed, nor the appearance of albumen or other pathological products in the urine.

Richter studied the effects of thiosinamine injections on the blood. He found, half an hour after the injections, a decrease in the number of leucocytes to about one-third of the normal, but at the end of four hours the number had increased to normal or beyond, and in some cases there was well-marked leucocytosis, persisting for forty-eight hours. The amount of hemoglobin was regularly increased, but there was no marked change in the number of red cells. There was no special effect on the number of eosinophile cells, but there was a uniform increase in the number of multinuclear leucocytes.

The effect of thiosinamine on pathological conditions is that of a powerful absorptive, acting probably by increasing the activity of the lymphatic system. This effect is seen in the absorption of serous exudations, which is usually accompanied by marked diuresis. It is also visible in its effect on lupus, corneal opacities, cicatrices, glandular swellings, and neoplasms. The absorptive effect is so active locally that in some classes of cases a latent process may be fanned into an active one. This is especially so in its use for clearing up opacities of the cornea; if there is the slightest inflammatory condition present, this will be very much aggravated, and treatment will have to be suspended.

Its use in lupus is of historical interest, since this was its first therapeutic application. Hebra and Van Hoorn observed a great effect on this disease wherever the superficial area of disease was large, but no case of complete cure is reported. The therapeutic use of thiosinamine in clearing up corneal opacities has met with almost perfect success in the hands of all investigators, and they all report cases of complete cure of cicatricial contractures, due to burns or other injuries. Hebra found it to cause very rapid absorption of chronically enlarged glands, except when these had a syphilitic origin.

Dr. Tousey reports a case of "typical keloid," following an extensive burn of the arm. The keloid affected two areas each of the size of a silver dollar, and projecting three-quarters of an inch above the surface. Dr. Tousey used hypodermic injections of thiosinamine into the left biceps twice a week. He began with a dose of two-thirds of a grain in 10 per cent. solution in absolute alcohol, and the highest dose used was a grain and a half. The cure was complete after twenty-seven injections.

In another case, one of "inoperable" recurrence after carcinoma of the inferior maxilla, Dr. Tousey found thiosinamine injections cause lessening of the induration, whilst the foul sloughing ulcerated surfaces became cleaner.—*Med. Chronicle.*

An efficient obtundent for hypersensitive teeth is given in *Dental Cosmos* by Dr. Genese of New York, with the following formula:

R. Cocain..... 4 per cent.
Carbolic acid.....50 per cent.
Benzoin gum.....46 per cent.

As a result of an examination of several liquid extracts of malt on the market, Edgar L. Patch, of Boston, says that not one of these had a particle of diastasic power. They contained from three to ten per cent. of alcohol, but it is not reasonable to believe that they are of any more value than pure beer, or some preparation of extract of malt and alcohol.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2067. SATURDAY, OCTOBER 17, 1896. VOL. LXXV—No. 16

ORIGINAL ARTICLES.

DIGESTIVE FERMENTS WITH ESPECIAL REFERENCE TO THEIR USE IN SURGERY.*

A. L. BENEDICT, A.M., M.D.† BUFFALO, N. Y.

Ferments may be defined as substances which cause chemical change in other bodies without undergoing obvious change themselves. They are apparent exceptions to the general law of natural philosophy that every action is accompanied by a corresponding and equal reaction, and their effect depends only slightly on quantity. Ferments are of two classes, (1) organic products without life and (2) living organisms. Taking the definition in the most general way, one is tempted to follow Brunton and make a third class to include such purely mineral substances as spongy platinum whose influence in chemical processes is as mysterious as it is pronounced.

You are familiar with the organic but unorganized ferments of the human body: ptyalin of the saliva, pepsin of the gastric juice, amylopsin, trypsin and perhaps steapsin of the pancreatic secretion, invertin of the intestinal secretion, rennint of both gastric and pancreatic juices, and the somewhat hypothetical fibrin ferment of the blood. Similar ferments are found in most animal bodies, including even some animalculæ. Of late years, a number of vegetable digestive ferments have been put on the market, including the well-known malt preparations of diastase, taka-diastase, various proprietary extracts from the paw-paw, and bromalin from the pineapple. Energetic ferments are also found in most carnivorous plants, including especially the sundew and Venus's fly-trap.

In the face of the enormous popularity and consequent commercial success of the various ferments, and of their well-demonstrated action in digesting different kinds of food, it may seem presumptuous to say that it is only in the rarest medical cases that they are of value. Allow me to use an illustration that will be peculiarly appropriate to a meeting of the surgical section of the Academy. Let us suppose that a hundred miscellaneous patients consult a doctor, all complaining of lameness. The degree

*Read at the meeting of the Surgical Section of the Buffalo Academy of Medicine, September 1, 1896.

†Professor of Physiology and Lecturer on Digestive Diseases, Dental Department, University of Buffalo.

or lameness may vary widely, some patients will use crutches, others not, some will complain of pain, others of stiffness of muscles and, in general, the particular symptoms will cover a wide range. Let us suppose that, ignoring all symptoms but the cardinal one of lameness and failing even to look at the lower extremities of his patients, the doctor writes down the diagnosis in each case as "lameness" and prescribes for every patient an artificial leg. You can easily judge in what proportion of average cases, the prescription would be appropriate and in how many instances the patients would lack the natural member which the doctor has sought to replace with an artificial leg. Yet, with one exception, this is an accurate surgical analogy to the average medical case which is diagnosed as "dyspepsia" and treated with digestive ferments. True, the patient cannot look into his stomach or intestine as he could at his feet and say, "I already have what you seek to supply," nor is the folly of adding pepsin to pepsin or diastase to ptyalin quite so obvious as the proposal to attach an artificial limb to a patient who still has his natural pair of supports.

The point in which the comparison is not quite accurate is this: Although pepsin and diastase are substances which act qualitatively rather than quantitatively, it is certainly true that patients suffering with dyspepsia not due to failure of these ferments are temporarily relieved by their administration as drugs and that gastric juice containing plenty of pepsin but lacking in acidity will have its digestive activity increased by the addition of more pepsin. However, neither in the experiment in the test-tube nor in the practical therapeutic effect, is this illogical treatment so effective as the rational correction of the digestive error. A comparison may be made to the relief which some patients receive from the use of lenses not at all adapted to the refractive error of their eyes. There may be this basis for the favor in which pepsin is held. The same man who is fond of prescribing pepsin usually likes to administer comparatively large doses of soda or other alkali for the sour stomach which follows a failure of hydrochloric acidity. The alkali destroys pepsin in its preliminary stage of pepsinogen, though not in the final stage. Thus, the joint use of soda and pepsin first destroys whatever natural digestive power may be present and then supplies the deficiency which it has created.

There are certain cases in which it is expedient—and here, as elsewhere, *expedient* may not be synonymous with *wise* or *proper*—to lend the aid of digestive ferments temporarily. The opportunity for a careful diagnosis may have been refused, or the stomach, though lacking in acidity, may be irritated by the attempt to supply acid artificially. In such cases, it seems best to use ferments foreign to the natural product of the stomach, on the general principle that it is unwise to supplant or render unnecessary the performance of a natural physiological function. Here is a useful field for the various preparations of paw-paw. Papoid I have used considerably and with good results, though it must be borne in mind that it will not digest everything—as one may infer from some of the advertisements—nor prevent bacterial and yeasty fermentation. Papain is also excellent, though both are held at a rather high price as compared with pepsin. With bromalin, I have had no experience, preferring to use the fresh juice of the pineapple, which can be obtained in Buffalo at most seasons and which is palatable to almost all patients. But it must be remembered that, after a hearty mixed meal, comparatively little digestion takes place in the stomach, and that so long as stomach contents can be removed, they will appear undigested and will disappoint patient and physician, till careful chemical tests are applied to the filtrate.

We hear a great deal at present about starch indigestion, and the indication for some form of diastase. It must be granted that one of the most common and most troublesome symptoms of gastric indigestion is the fermentation of starches, but it is a mistake to regard this as anything more than a symptom. If proteid digestion occurs normally, and yeasts and bacteria are held in check by the gastric juice, we need not concern ourselves about the starches. They may or may not digest in the stomach. Raw starch cannot and

cooked starch will not, except to a limited amount. Starch digestion in the stomach depends directly on the degree of insalivation and inversely on the degree of acidity — factors which vary widely between normal limits and which are not constant during the digestion of a given meal, nor at the same time after eating in the same individual. Whatever starch passes through the stomach undigested will be cared for by the pancreatic juice, except in rare instances. On the other hand, a stomach which is foul and in which not only acid fermentation but actual putrefaction is taking place, will give the symptoms of starch fermentation, and, if the patient vomits, undigested starch will certainly be present. But no amount of diastatic ferment will effect a radical relief.

The indication is plainly to place the stomach in proper condition to digest proteids, and, above all, to render it clean. The starches will then take care of themselves. Speaking of the failure of starches to digest, Ewald says: "Under such circumstances, one might suspect a deficiency of ptyalin in the saliva. Yet this does not appear to be the case. For a long time, I have tested the fermentative power of saliva in patients with dental caries, inflammatory lesions of the mouth, angina, diphtheria, carcinoma of the tongue, and similar conditions, but never have I found a saliva which could not convert starch into sugar." Excepting angina, diphtheria and carcinoma of the tongue, my own experience may be stated in ditto marks to Ewald's assertion, though his experiments are certainly of earlier date and undoubtedly of much greater number than mine. In cases of gastric ulcer, cancer, and severe non-malignant dilatation, I have examined the saliva, almost hoping to find a deficiency of ptyalin, but such has never been found by ordinary simple tests, though diastasimetry might have demonstrated a relative weakness.

As regards the use of pancreatic ferments, either isolated or combined, it is difficult to express an opinion based on actual observation. We have no means of examining into intestinal digestion, as in the case of the stomach; disease of the pancreas, whether functional or organic, is rare and extremely difficult to diagnose. We know that the normal gastric juice will destroy pancreatin as ordinarily administered, though the theoretical efficacy of a coating of salol or keratin has not been absolutely disproved. Few or no cases of obvious intestinal indigestion occur without gastric indigestion and the correction of the latter usually results in the proper performance of the intestinal function. Under these circumstances, we may conclude (1) that there is no *a priori* reason for supposing pancreatin to be of any service, and (2) that its uselessness is not so thoroughly demonstrated as in the case of pepsin and diastase.

In addition to the ferments commonly recognized, we owe to surgeons long and elaborate series of observations which show that either pepsin, or some other digestive ferment is universally distributed through the active tissues of the body. Hematemata, often of considerable size, are resolved; the products of extra-uterine pregnancy slowly disappear; almost all kinds of aseptic sutures and ligatures, including the toughest animal structures known, are gradually absorbed by the tissues; the peritoneum, after proper stimulation by section, irrigation or the introduction of sterilized air, has absorbed not only water, but the products of tubercular inflammation, apparently digesting the bacilli themselves; callus about broken bones is removed in the same mysterious but effective manner; particles of flesh and small fetal animals, introduced within the peritoneum, have been entirely absorbed; after intestinal surgery, particularly after experimental operations on healthy animals, the sutures and infolded ends of intestine have been so thoroughly removed that it has been impossible, on subsequent section, to locate the site of the former operation. All this means digestion and digestion of an energetic character, in spite of its comparatively slow course, since the substances cited as absorbed are of an exceedingly resistant nature and would pass through the intestine, after having remained in contact with the various digestive juices for two days, almost unchanged. Moreover, sutures and ligatures rendered as impervious to secretions as possible, by the use of chromic oxid, mineral dyes or other preserva-

tives, also yield in time to the fluids of exudation in all active tissues of the body. If the absorption so carefully observed by surgeons were merely a physical process of solution, we should have bullets, needles and silver wire absorbed rather than catgut and tendon. Neither is the problem a simple one in chemistry, or we should hear more encouraging reports from the effects of electrolysis, instead of the almost universal expression of dissatisfaction.

About a year and a half ago, I deliberately retained a case of minor surgery in order to put into execution an idea already entertained for some time, and which I have since learned has been suggested by others. The case was a septic wound of the hand, which had been dressed at one of the dispensaries or emergency hospitals, two or three days before. On removing the dressings, which seemed to have been applied with due care, there was exposed a suppurating and granulating wound of the palm, with a good-sized tendon end projecting. It was plain that the tendon could not be sutured into its natural connection, nor could the most elaborate trimming remove all the structures destined to be destroyed by suppuration. I, therefore, with some hesitation, dressed the wound with pepsin in powder and covered it with plain absorbent cotton, wet with a 1-500 solution of hydrochloric acid. The next day, the wound appeared much cleaner, there was comparatively little suppuration and the tendon end and other scraps of tissue in the bottom of the wound had somewhat diminished in size. The wound was then dressed with iodoform and antiseptic gauze in order to afford a comparison between the two modes of treatment. The result of this dressing was satisfactory, so far as the control of suppuration was concerned, but, at the end of two days, the wound seemed no nearer healing than at the beginning. The digestive dressing was then re-applied and maintained for two or three days, being renewed each afternoon, except that, as a matter of caution, the antiseptic dressing was again applied for a day during this period. The wound having now been cleared of tissues requiring removal and having contracted considerably, simple antiseptic dressings were re-applied and healiug took place kindly.

We have already learned that bacteria in general are not always the emissaries of Satan which the early advocates of antisepsis considered them. In the development of vegetation, in reducing dead organic bodies of either kingdom to their constituents, in various fermentations, they perform useful parts. Even in suppuration, I believe we are justified in returning somewhat to the old conception of beneficence embodied in the term *pus laudabile*. Contrast the insignificant trouble occasioned by a boil with the depressing or even fatal effect of a carbuncle. Yet it is difficult to frame a definition that will distinguish clearly between these two lesions, and the essential line of clinical differentiation is according to the presence or absence of a "core." In short, a boil is a trifling matter, because the focus of infection and inflammation is speedily softened by the action of bacteria, while a carbuncle pursues a slow course and allows a condition of sapremia to develop because the infected fibrous tissue is not reduced to a pulp by the digestive action of germs. I say digestive action since many, if not most bacteria of suppuration, produce albumose and perhaps true peptone from the albuminous constituents of the tissues which they attack. So-called peptonuria—or really albumosuria—is now a well-recognized sign of concealed suppuration. In passing, allow me to call attention to the fact that germs of putrefaction do not usually cause such digestion and that there is a partial separation of pyogenic and saprophytic bacteria. It occurred to me at one time that saprophytes probably shared the digestive action of pus-producers and that albuminous urine, after decomposition, would give the biuret reaction which is quite delicate and which might be used to verify or disprove the existence of a doubtful trace of albumin. Unfortunately, no such reaction occurred, my premise having been incorrect.

The digestive action of pyogenic bacteria, restrained within proper limits, may well be considered conservative. It is desirable that a clean cut, whether inflicted accidentally or by the surgeon, should unite edge to edge, with the least possible destruction of tissue. Not so with a wound in which the tissues are lacerated or cut off from their blood-

supply or in which infection has already destroyed the vitality of certain structures. Here there is a positive indication for the removal of tissues which cannot resume a normal growth. Some years ago, I assisted, as house-surgeon, at a case of abscess in the head of the tibia—whether tubercular, syphilitic or otherwise was not determined. The progress under antiseptic dressings was tedious and the visiting surgeon, to my horror, directed that the antiseptic dressings be removed and the cavity packed with plain, unsterilized lint. Profuse suppuration naturally ensued, vigorous granulations sprang up and the case progressed rapidly and favorably. It may be objected that the result was due entirely to the removal of the depression, which sometimes follows the use of iodoform, etc., and that the effect was vital rather than chemical. But I believe that part, at least, of the effect noted in such cases and in the spontaneous healing of abscesses and other infected areas, is the result of a destruction of doomed tissues by bacteria, thus clearing away the debris above a firm foundation of healthy cells.

But there are obvious disadvantages to such a method. The surgeon who introduces or allows to develop in a wound, germs of suppuration assumes a heavy moral responsibility which might prove to be a professional and financial one if the bacteria escaped from control. Yet the necessity of getting rid of necrotic tissue is equally plain. In most cases, a suppurating wound containing necrotic masses will continue to suppurate in spite of our efforts at antisepsis, the needful digestive action of bacteria persisting. In other instances, suppuration being nearly or quite controlled, such tissues can be removed only by the slower process of digestion and absorption already referred to, as affecting sutures and ligatures. The method to which I have called your attention this evening is comparatively rapid, even more so than the spontaneous digestion by bacteria which occurred under the old *regime*, while it is reasonably free from danger in the direction of sepsis. The methods of manufacturing pepsin make it an object of suspicion on account of possible infection, but the cases in which its use would be indicated are such that the addition of a few more bacteria, not at all apt to be of any special virulence, is like "carrying coals to Newcastle." The addition of hydrochloric acid also controls any tendency to the development of bacteria though it may well be doubted that the acid and pepsin mixture remains of a sufficient strength to be actually germicidal.

DISCUSSION.

DR. HARTWIG cited the use of mixtures of pepsin and hydrochloric acid, as well as of hydrochloric acid alone in order to digest necrosed bone and called attention to the fact that Morris had used similar digestants in the treatment of certain phases of appendix inflammation. He thought that there was much promise as to the usefulness of digestants in surgical practice.

DR. BENEDICT, in reply, said that he had formerly used injections of hydrochloric acid for necrosis of bones but that he had omitted reference to this method as it was a matter of chemical solution and not of digestion in the ordinary organic sense. He was not aware of the use of digestants to which Dr. Hartwig had alluded but it was not strange that he had not happened on such reports, as his work was not of a surgical character. The paper had been written on very short notice and there had been no time for searching the literature of the subject, further than to refer to the indexes of the last four issues of *Sajous' Annual* in which he had not been able to find any allusion to the employment of digestants in surgery. As he had stated in the paper, he had come to the meeting ignorant as to what degree of originality could be claimed or to what extent he had been anticipated by others.

Attorney (examining witness)—You say you saw the shots fired.

Witness—Yes, sir.

"How near were you to the scene of the affray?"

"When the first shot was fired I was about ten feet from the shooter."

"Ten feet. Well, now, tell the court where you were when the second shot was fired."

"I didn't measure the distance."

"Speaking approximately, how far should you say?"

"Well, it approximated to half a mile."—*Texas Sifter.*

Mother (impatiently)—I don't know whatever will become of that child. Nothing pleases him. Father (serenely)—Well, we'll make an art critic of him. —*Bengal Punch.*

RECONSTRUCTIVE SURGERY OF THE TUBES AND OVARIES.*

ROBERT T. MORRIS, M.D., NEW YORK.

In the early days of abdominal surgery, it was necessary for operators to do some destructive work in order to obtain the object lessons which enabled them to do constructive surgery of the ovaries and tubes later. Seeking ever to render service to the patient, the surgeon hails with delight each step in progress which allows him to exchange the coffer-dam of conservatism for the solid masonry of knowledge, and to-day he can spare many a tube and many an ovary that formerly would have been extirpated. I shall speak very briefly this afternoon of degenerating uterine adnexa which belong to the degenerating individual, and of disabled uterine adnexa which have been damaged by acute inflammatory processes.

When the gardener, by artificial selection, develops the rose for beauty, he gives to it every advantage that the plant would desire, and after a few generations the stamens have become transformed into glorious petals; or, in other words, the ovary has degenerated and the beautiful flower has lost its ability to propagate its kind. So in the human species—the girl, surrounded by opportunities of present-day civilization, has a tendency to become beautiful and intellectual at the cost of her generative function. The whole reproductive apparatus degenerates.

Acute inflammatory processes cause another sort of injury. We find oviducts with fimbriæ so agglutinated that ovules cannot enter the tube. We find ovaries so buried in adhesions that ovules cannot escape from the net, and it is in this latter group of cases that the surgeon finds his greatest opportunity to do reconstructive work. Some years ago, when Dr. Emmet was vigorously taking the stand adopted by most general surgeons against unwarranted ovarian surgery, he made to my mind the strongest appeal when he compared the inflamed ovary to an inflamed testicle, and stated that if such a testicle were removed, we should find under the microscope a horrible pathologic condition, and yet such a testicle might become perfectly normal and useful if it were not removed. I have no patience with the surgery which removes ovaries because they are too hard or too soft, or too big or too little, or because they are disabled by adhesions. My office boy can remove ovaries and tubes, but it requires the most profound surgical erudition to know what ovaries and tubes we can save, and it is that sort of skill in which the real benefactor of mankind delights.

In the brief time allotted me this afternoon, I cannot make an elaborate classification of cases, but will simply say that, in the proper sort of cases, the following surgical resources promise much for progressive surgery:

1. When an ovary and tube are shelled out of adhesions, agglutinated fimbriæ are carefully separated and a probe is passed through the lumen of the occluded oviduct. We know that adhesions are likely to re-form immediately if such adnexa are dropped back into the pelvis without further treatment; so we proceed to guard against that result by pressing permanganate of potassium crystals against oozing points, and having dried the adnexa with gauze, aristol is rubbed into the ragged tissues from which adhesions were separated. Aristol is soon encapsulated in a lymph coagulum, which makes a mechanical obstacle to re-formation of adhesions until the coagulum has been gradually replaced by nice, smooth connective tissue and endothelium. The practical utility of this resource I have demonstrated experimentally upon rabbits and upon patients whose abdominal cavities had to be opened later for some reason.

2. When the fimbriated end of an oviduct has been entirely obliterated, leaving it club-shaped and occluded, a resource which has been employed by

*Delivered at the fiftieth annual meeting of the Alumni of the University of Buffalo, Medical Department, May, 1896.

operators gives encouragement, and I have heard of pregnancies following its application, but have not as yet obtained one in my own practice. The resource consists in opening and stretching the oviduct widely, splitting it on one side and suturing it to the ovary in such a way that mucosa of oviduct is spread over a part of the peritoneal surface of the ovary. I can foresee the danger of extra-uterine pregnancy in some of these cases, but so long as we are on guard, the danger to the patient's life is trifling.

3. When an ovary and tube have been so much damaged by acute inflammation and adhesion that we cannot hope to restore them to a fairly normal condition, we can remove a piece of ovary about as large as a lentil, place it temporarily in warm physiological saline solution, and then, having split the oviduct or the fundus of the uterus, the graft of ovary is sutured in place in such a way that peritoneal surface of ovary protrudes into the lumen of the oviduct or uterus. I have obtained one pregnancy by the application of this resource. Unfortunately, the patient aborted at the third month because remaining pelvic adhesions prevented the uterus from enlarging freely. But, nevertheless, we have a demonstration of the fact that a segment of ovary, entirely separated and then grafted upon a new seat, can form fruitful ova. In this work I was guided by our knowledge of the fact that a small piece of transplanted thyroid gland would continue to perform its functions.

4. When the ovary has been entirely destroyed, or removed previously by operation, or when the ovary has degenerated or has failed to develop, we can graft a segment of ovary from another patient into the uterus of the patient who wishes to receive an ovarian graft. The segment of ovary removed from one patient is placed in warm physiological solution, and the uterus of the second patient is then immediately prepared to receive it. I have not as yet done this for a married woman, but there is no reason why the graft should not do what it did in the one successful case when the patient was grafted with a piece of her own ovary. In one patient, who had never menstruated up to her twentieth year because of rudimentary adnexa, menstruation was established after I had placed in the fundus of her uterus a graft from another patient.

The necessity of separate quarters for tuberculous patients, or at least the necessity of separating them from the rest in special wards appropriated for their exclusive use in the present hospitals, is dwelt upon in the report of the committee appointed by the municipal authorities of Paris. They also recommend the decentralization of tuberculous patients by removing them to special sanatoria in healthy localities. Letulle also suggests the establishment of curable tuberculosis colonies in Algiers and Corsica. They also demand that the patients and attendants should be carefully educated to understand the necessity of prophylactic measures, with penalties enforced for neglecting them. The attendants must also be selected with care, and all rejected that show any tendency to morbid conditions of the respiratory organs. They found that 1,296 of the total of 4,470 attendants connected with the hospitals of Paris were already diseased, 651 with bronchial affections and 526 with pulmonary tuberculosis. There have been 599 deaths among them during the past ten years, 217 due to tuberculosis and 154 to other diseases of the respiratory organs.—*Medical Record.*

All that appears in print is not necessarily true, as a recent case shows. A man in Paris heard of a case in which the hair of the head fell out from a patch exposed to the x-rays, and thought he had discovered a way to make his fortune. He accordingly advertised that he would guarantee to remove the mustaches and whiskers with which some French women are adorned. He took his fees and exposed the patients to the apparatus, but, as the hair showed no sign of disappearing, he was straightway arrested for fraud.

"I'll bet that man down there in the corner near the door eats his pie with a knife." "Why?" "You see he is using a finger to cut the pages of his magazine."—*Cleveland Leader.*

COMMUNICATIONS.

THE MARIETTA VACCINE FARMS.

WILLIAM H. BURR, M.D., PHILADELPHIA.

WILLIAM JENNER.

Although the profession in general is aware of the existence of the large farms at Marietta, Lancaster County, Pa., for the production of vaccine virus, few know of their extent or of the many precautions used to insure the obtaining of virus physiologically pure. During the annual meeting of the State Medical Society last May, Dr. H. M. Alexander, the proprietor of the farm, gave a celebration of the centennial of Dr. Jenner's discovery of vaccination as the preventative of small-pox. A number of the members of the State Society, by special invitation of Dr. Alexander, left Harrisburg by special train, arriving at Marietta at about nine A.M. The guests were met at the depot and speedily driven to the vaccine farms, where they were cordially welcomed by Colonel D. B. Chase, after which there was a careful inspection of the farm.

At twelve o'clock a very pleasant reception was accorded the visitors in the banqueting hall, which was beautifully decorated for the occasion with flowers, bunting and potted plants. A very pleasant feature of the reception was the well-filled lunch table, which was presided over by a bevy of pretty girls, assisted by well-trained waiters. During the luncheon a male chorus composed of sweet-toned boys, dressed in red and blue uniforms, sang some very happy selections from the old plantation songs; including, "Old Uncle Sam," "Kingdim Comin'", also, "The Soldier's Farewell" and ending up with the "Star Spangled Banner." One of the amusing features among the songs produced was an adaptation of words suitable to the occasion to a popular "Princess Bonnie" air. The words were as follows:

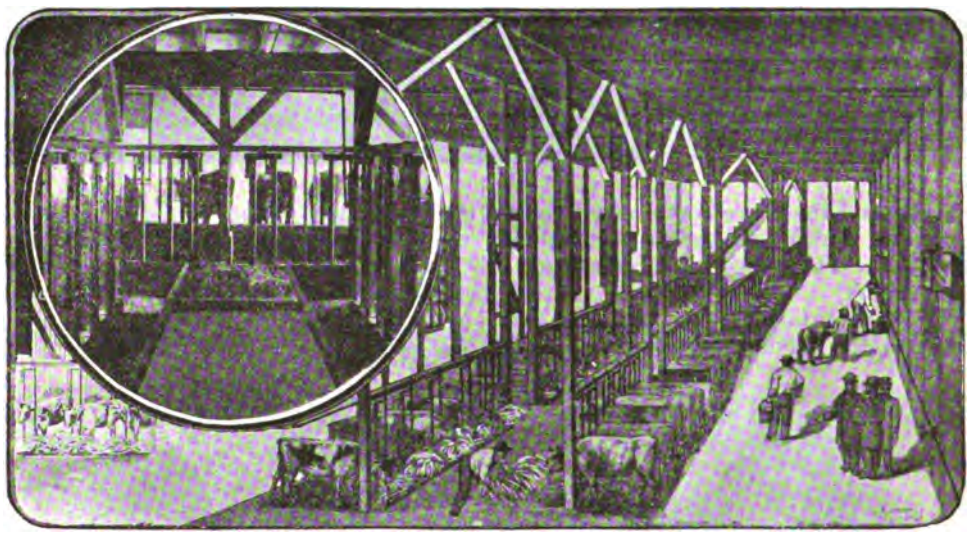
ONCE UPON A TIME.

Air from "Princess Bonnie" No. 3.

Once upon a time, it seems like a fairy rhyme,
An Arabian tale of an Eastern clime—once upon a time.
Hurrah! Hurrah! Hurrah! Hurrah! Hurrah!
Our Jenner so true—welcome to you,
Upon one and all, our greetings now fall—
Hurrah Hurrah H-U-R-R-A-H!!!!!!!

Interesting and appropriate addresses were delivered by Dr. M. R. Richards, New York, Drs. William M. Welch, E. W. Holmes, Philadelphia, and Rev. Dr. George Duncan, pastor of the Westminster Presbyterian church of Harrisburg. Dr. W. T. Bishop, Harrisburg, presided, and in his happiest manner introduced the several speakers.

The occasion was felt by every one to be thoroughly enjoyable and a complete success. Those taking part in it united most hearty acknowledgments of Dr. Alexander's courtesy and hospitality. For the benefit of those who have not had opportunity to examine the process of preparing the serum by the Alexander process, we give a short review from personal inspection.



INCUBATING ROOM.

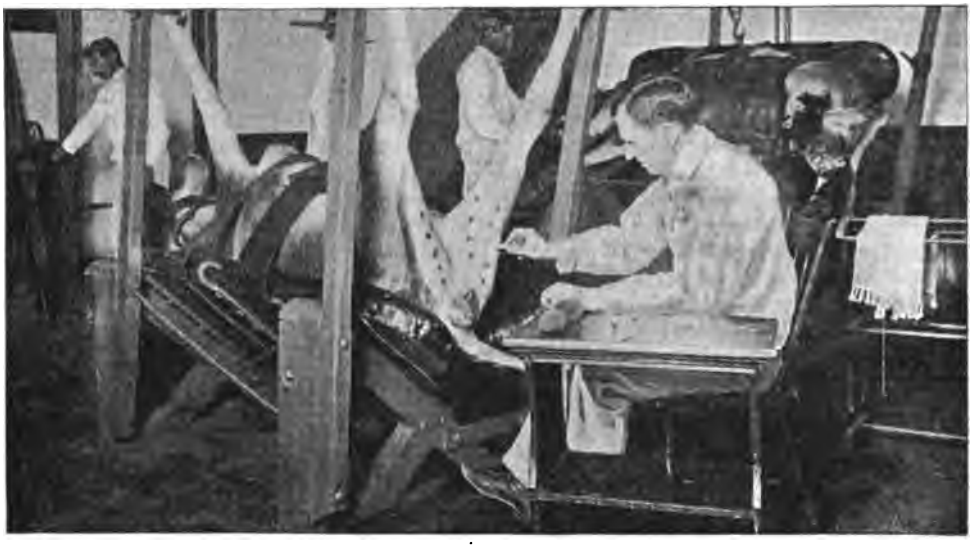
The first thing with which the visitor is impressed is the fact that all the buildings are erected with the idea of the strictest sanitary welfare of the animals occupying them. So much is that the fact that it occurs to the writer that surgical operations might as safely be performed in many of the rooms, as in many hospitals that have been visited. One may pass through the whole structure without being impressed with the fact that they are in a stable. To observe the well-fed, well-groomed heifers is an acute pleasure to any stock-loving person. The stock is all selected, most of it graded, and a complete family history is kept of each animal used on the farm. Here have been the mothers, grandmothers, and great grand-dames of the present progeny; and here will come the children and grandchildren of the present inmates.

Heifers under two years are selected, and are first placed in the receiving room, where they are kept under inspection and thoroughly examined for any possible diseased condition that may be present. The animals are well fed and well groomed and are kept in this room for one month, when they are removed to the inoculating room.

The operating room is a model for cleanliness, and as strict aseptic and antiseptic precautions are followed as in any modern hospital. The animal is strapped down on her back and firmly held in a comfortable position upon a specially-prepared upholstered couch. The nates are smoothly shaved over a space of four inches wide by ten inches in length. The parts are thoroughly washed with bichloride solution and inoculation made in the following manner. Circular spots half-inch in diameter and separated from each other by three or four inches, are denuded of their superficial epithelium with the flat side of a scalpel. These spots are still further scarified with an ordinary vaccine comb, and are then inoculated much in the same manner as in ordinary vacci-

nations, large ivory points being used for the purpose. The denuded spaces run in a linear direction over the spaces

The process of inoculation is commonly followed by no special symptoms of discomfort or annoyance to the ani-



shaved, and there are commonly five on each side, making ten pustules after incubation. The diagram above shows the process.

After inoculation the animals are taken to the incubation room, which is

mals operated upon, and they eat and sleep well during the mild inflammatory process. After about ten days, at the completion of incubation, the animals are again taken to the operating room, the scabs removed, all pus washed off,

SPONTANEOUS COW-POX.

a large, airy chamber well protected from heat and flies in summer and heated in winter.

and the serum as it exudes is taken up with a suitable instrument and brushed over the ivory points which have been

previously arranged in clamps, fifty in each. After having the lymph removed the animals are taken to the discharging department, where they are kept until the vesicles have entirely healed, when they are returned to the farms from which they came.

The cattle are fed with green stuff from April to November, growing rye, wheat, crimson clover, oats, with bran mash, cow peas, etc. During the remainder of the year they necessarily get dry feed. It is found by experience that green feed and good feeding produce a better article of virus. The heifer is never inoculated a second time as it is immune after the first inoculation.

ACCIDENTAL INOCULATION FROM SPONTANEOUS COW-POX.

SURGICAL AND MECHANICAL RELIEF FOR THE SO-CALLED HOPELESS PARALYTIC CRIPPLES.*

DE FOREST WILLARD, M.D.,† PHILADELPHIA.

Scattered throughout the State are scores—yes, hundreds—of individuals who spend their lives helplessly upon the floor or in beds, or who are extremely limited in their means of locomotion, and only move about on crutches. Many of them never see the outside world. Some of these cases are deformed from bone inflammations, but a large proportion are deprived of locomotion by the results of various forms of paralysis.

Infantile paralysis and cerebro-spastic paralysis are the two forms most commonly met with. Anterior-poliomyelitis, with its resultant atrophy of certain sets of muscles, gives greater power to the opposing muscles, which, together with weight-bearing results in various contractions of the hip, knee or ankle, which may ultimately prevent the patient from walking, even if the muscular power is to a certain extent retained. This interference with locomotion is largely mechanical, and even an individual of strong, normal muscles would find it difficult to walk with limbs permanently fixed in false positions.

A man, having but two feet, is in a worse position than a quadruped, since weight-bearing is interfered with if a single supporting leg is affected. Man is a plantigrade animal and needs to tread broadly upon the sole of his feet to enable him to retain the erect position. The weight of the trunk must also be transmitted to the feet in nearly a straight line. When this position is impossible, the individual necessarily is rendered helpless.

The first idea, therefore, should be to place the limb so nearly as possible in the normal position for sustaining weight, and every effort should be made to secure this condition. Until it is secured, no one has a right to say that a case is incurable or that locomotion is impossible.

Atrophy of the muscles may exist, but I frequently see the weakened muscles exert their power under the stimulating influence of motion and exercise. I have records of scores of cases who

*Read by title before the Pennsylvania State Medical Society, 1896.

†Clinical Professor of Orthopædic Surgery, University of Pennsylvania, Surgeon to the Presbyterian Hospital, etc., etc.

for years have been helpless upon the floor, and would have remained so to this day but for the surgical and mechanical means rendered them. Some of them have been made to walk unaided for miles; others progress with the assistance of canes; others on crutches or by other aids to locomotion. All such accessories are better than helpless confinement. Not only does locomotion add to the physical development, but it also contributes largely to the mental education, and thereby increases knowledge. Faces upon whose lineaments had been stamped hopeless despair have, by the magic influence of hope, become bright and happy, and the individuals are made useful members of society.

Even atrophy of the peri-articular muscles of the hip, with contraction, though a serious condition and one most difficult to deal with, ought not to be considered absolutely unimprovable, for surgical and mechanical measures can assist even this deformity.

If the arms are well developed and strong, we can most positively expect good results, no matter how weakened are the lower extremities; but where the poliomyelitis has been high up in the cord, and where the paralysis has extended to the upper extremities, of course the difficulty is greatly increased.

In infantile spinal cases, however, the non-improvable cases are few.

In cerebro-spastic cases, of course, the benefit to be obtained will depend largely upon the brain power of the individual; but a surgeon can, even in these cases, put the patient in a condition to secure the advantage of contact with the outside world. This acts as a stimulation and secondarily results in brain development.

All the theories of the neurologists can never discourage me when I see the results of my clinical work in the most desperate and even in idiotic cases.

The staggering, uncertain gait of the spastic, often with knees striking, or actually crossed, with knees flexed and heels raised, is well known; but if the brain power is present no one need despair of securing a moderate amount of improvement, depending in degree upon the vigor of cerebral cells.

The straightening of such legs, and the sending of such individuals out into the educating influences of the world will daily expand the cerebral cortex and improvement will result.

Treatment.—Operative interference, as a rule, should precede any attempt at mechanical support. It is useless to inflict pain when simple and safe operative measures will, in half an hour, accomplish the results in a better manner. One need not fear that a limb will become weakened in consequence of operative measures; on the contrary, it will be stronger, since the proper muscular equilibrium will be secured, and a limb with equalized muscular power must, of necessity, be more serviceable than a limb in which one set of muscles is strong and another set weak.

The one operative rule to be followed is to divide all contracted tissues, whether muscular, fascial or ligamentous. This may be done either subcutaneously or by open incision as seems advisable. In the region of important structures it is safer to see exactly what tissues are to be divided, and with thorough asepsis a speedy closure may be expected.

It is perfectly feasible subcutaneously to cut the tensor vaginæ femoris and the origin of the sartorius and rectus together with the fascia without injury to any important structures; but if the contraction extends forward and surrounds the anterior crural nerve, it will be safer to make an open section.

In extreme cases, where the pelvis has been long tilted forward and the lordosis is very great, even section of the iliacus will not place the pelvis precisely in the normal position.

A longitudinal incision is better than a transverse one, as the straightening of the limb is apt to make a gap in a transverse wound.

In all cases of extensive division there is liable to be a large space beneath the anterior spinous process which is difficult to obliterate. A cavity beneath the skin, even though filled with blood, is apt to give trouble, but by close suturing and the use of a large compress it can usually be obliterated.

For thorough stretching of the contracted tissue in front of the hip, the pelvis can best be secured by placing the patient in the prone position, but care must be exercised not to injure the abdomen by undue violence.

When the adductors are contracted, producing scissor or crossed leg, their division is usually accomplished subcutaneously. This sub-dermal method is decidedly preferable on account of the fact that in cerebro-spastic cases urinary soiling of the wound is common. To remove the puncture as far as possible from the genitalia, the skin of the thigh should be drawn toward the median line of the body so that the puncture (which should be extremely small) shall, after recession, be nearly in the centre below Poupart's ligament. The saphenous vein must, of course, be avoided.

This operation must be done under the most strict aseptic precautions; the wound then should be carefully covered and excluded from possible infection. The dressing near the genitalia should be covered with mackintosh and held in place by adhesive strips, or protected by shellac.

The best dressing for the retention of the limbs in abduction is by fixing the knees by gypsum, then separating the limbs widely during the several weeks required for repair. Such dressing is also useful for keeping up extension on the divided tensor vaginæ femoris and rectus.

When there is extreme lordosis, as is present in old cases of infantile paralysis, much can be accomplished by long-continued extension downward from the legs and upward from the head and shoulders.

At the knee in cerebro-spastic cases the tendons can be divided subcutaneously. In old cases, however, the contraction of the connective tissue is great; it is often wiser to do the open operation to avoid the risk of injuring the vessels and nerves; although when the tendons alone are at fault the subcutaneous operation is preferable. If two or three longitudinal incisions are made, closure is much more easily affected than by transverse cuts as the latter always gap when the limb is extended.

The worst cases to encounter are those where the patient has crawled upon the floor for years and has produced a partial posterior displacement of the tibia, together with an overgrowth of the anterior part of the condyle of the femur, producing an over-hanging bony ledge that can easily be overcome by partial resection of the knee. In some of these cases, however, resection is of advantage, as subsequent anchylosis and fixation of the knee does away with the necessity for apparatus, and saves the patient a good walking member.

I have operated upon quite a number of these cases for this purpose. In some cases only the cartilage is pared away from the anterior section just sufficient to straighten the limb. It is then necessary to fix the leg in the descending position until anchylosis occurs in good line. It is seldom necessary to wire the femur and tibia, as a rigid dressing of plaster of Paris is sufficient.

If the operation is cleanly done no danger need be feared and primary union can be secured. The limb may be dressed in plaster of Paris, or a bracketed or a posterior splint may be used.

At the ankle, in cases of infantile paralysis, tenotomy will be required; usually the tendo-Achillis, the posterior and anterior tibials and the planter fascia in equino varus, and the peroneals in valgic cases. In calcaneus, the shortening of the tendon Achillis is occasionally necessary, with subsequent employment of a stop-joint.

In adults, the astragalus may require removal in stubborn varus, or the scaphoid may demand similar excision in particularly bad valgus.

After recovery from operation, the employment of apparatus is nearly always indicated to retain the limb in the restored position or to assist in weight-bearing.

The apparatus required varies so greatly with each individual case that it can scarcely be described, since each problem requires a careful and systematic adaptation of means to ends. The muscles should be compelled to assist to the full extent of their ability so as to develop their tone and vigor, which will steadily increase under use. When only partially useful they should be assisted by elastic or spring assistants attached to sustaining uprights.

Only when entirely helpless should lock joints be employed, but stop joints are often of service to prevent deformity. The appliance should be as light as is compatible with strength. When the arms are strong, great assistance can be given by the use of crutches,

canes, wheeled crutches, trolley supports, etc., etc. Massage and electricity are useful adjuncts.

In anchylosis following inflammatory trouble about the joints tenotomy, forcible straightening, osteotomy, and excision are all most serviceable.

CONCLUSIONS.

1—A limb contracted at the hip-knee or ankle is mechanically unfit for locomotion, but if brought into a straight line with the body it can sustain the weight.

2—Surgical measures, tenotomy, myotomy, osteotomy, or excision are frequently required to accomplish this result.

3—Subsequent support by mechanical appliances is usually necessary, together with the temporary use of crutches, wheeled crutches, or other support.

4—By a judicious combination of these measures a case having sufficient strength in the arms to assist in locomotion need not be considered hopeless.

STOMACH DIGESTION.*

FRANK H. MURDOCH, M.D., PITTSBURG, PA.

The capacity of the human stomach is from eight to fifty-six ounces. When it holds more than fifty-seven ounces, Ewald considers it to be in a condition of dilatation. During rest, the stomach should be empty or contain at most only a small quantity of clear mucus.

During digestion it becomes a closed sac. Its contents are subjected to a sort of churning motion from contraction of its walls, and, at the same time, a free secretion of gastric juice takes place from the gastric glands.

So soon as any portion of the contents becomes properly prepared, the pyloric orifice opens to allow of its passage into the intestine. This is repeated at intervals until, in the course of a few hours, the stomach becomes empty, and then the peristaltic action ceases, as does also the secretion of gastric juice, until food is again taken into it.

Gastric juice is a clear colorless fluid, of a specific gravity of from 1002 to 1003, and, besides hydrochloric acid, contains two ferments, rennet and pepsin. The amount secreted in twenty-four hours is about seven liters, or nearly one-tenth of the body weight.

The glands which secrete the gastric juice open upon the mucous membrane of the stomach and are of two classes, the cardiac and the pyloric.

The cardiac glands are tubular and several open upon the surface by one duct. They are lined by two kinds of cells, one, forming the greater number, are the chief, central or adelomorphous cells for the secretion of pepsin and rennet. The other larger, but also granular and nucleated, are of the parietal, dilomorphous, or oxyntic cells for the secretion of hydrochloric acid. The pyloric glands are without the parietal cells, and consequently do not secrete hydrochloric acid, but pepsin and rennet only.

The epithelial lining of the mucous coat of the stomach is formed partly by columnar cells, and partly by goblet cells for the secretion of mucus.

Pepsin and rennet are not secreted by the gastric glands as such, but exist in a preliminary stage, the one as a proenzyme or rennet zymogen; the other as pepsinogen, both requiring the presence of an acid, especially hydrochloric acid, to convert them into active ferments. Rennet precipitates the casein of the milk, and with it the fat, leaving a liquid part which contains the salts and lactose. As the gastric filtrate, although neutral in reaction, may contain both rennet zymogen and pepsinogen, it should be acidulated with hydrochloric acid before making the test for either rennet or pepsin.

Rennet, like pepsin, is a constant constituent of the gastric juice, and its absence indicates atrophy of the gastric mucosa, although Einhorn has reported

*Read before the Allegheny County Medical Society.

two cases where, for a long time, there was entire absence of gastric juice, but where eventually it reappeared in almost normal quantity.

Pepsin, in the presence of an acid, has the power of transforming albumin, whether egg, serum, plant albumin, or casein, into a soluble and easily diffusible form, peptone. Propeptone is a transformation product of albumin, absent in the digestion of meat, but present in the digestion of plant albuminates and pure egg albumen, hence always found in an ordinary mixed diet. Its presence in abundance at the end of an hour after the test breakfast, indicates an abnormally slow digestion of the nitrogenous part of the food, for it should have been converted into peptone, or, at least, be found only in traces.

Ewald has shown that peptone may be formed in the presence of other acids than hydrochloric acid, especially lactic acid; and, artificially at least, a certain amount of digestion takes place at the end of an hour and forty minutes in a test tube containing a solution of coagulated albumin, water, pepsin and acetic acid; but when a similar mixture is acidulated with butyric acid, and treated in the same manner, no digestion whatever takes place (Martin).

As early as ten or fifteen minutes after taking food, the stomach contents obtained, are acid, the acidity depending for the first half-hour upon the presence of lactic acid. For the next half-hour, hydrochloric acid exists with the lactic acid; but after the first hour hydrochloric acid alone should be found. Lactic, acetic and butyric acids are not secreted by the gastric glands, but are either swallowed with the food, or formed in the stomach from the non-nitrogenous part of the food by bacterial fermentation.

The normal acidity of the gastric juice is from forty to sixty, but in patients complaining of stomach trouble, this condition is very rarely found. In a series of 564 cases examined by Einhorn, the acidity was normal only ninety-one times. In 187 cases there was too little acid, and in 286 cases, too much. In 120 cases hydrochloric acid was entirely absent. In twenty-six cases in which I have recently examined the gastric juice, the acidity was not normal in a single instance. In five of the cases it was too low; and, in all these cases hydrochloric acid was absent, while in the remaining twenty-one cases the degree of acidity was too high.

Hydrochloric acid acts in several ways in the stomach. It stimulates the peristaltic action, it develops active ferments out of inactive proenzymes, and, with the aid of pepsin, converts albumin into peptone. It has nothing to do with the digestion of the carbohydrates of the food.

The digestion of starch begins in the mouth, the ptyalin of the saliva converting a certain portion of it into sugar. But the action of the ptyalin does not stop in the mouth, for the saliva which is swallowed with the food continues its action on the amylaceous substances, even in the stomach, until its action is arrested by the acid of the gastric juice. No further change takes place until the stomach empties itself into the duodenum, where the acid chyme, coming in contact with pancreatic juice, is rendered alkaline, and the digestion of the starch is completed.

As albumin are changed into propeptone before being converted into peptone, so starch is changed into erythrodextrin, and then into achrodextrin, before being finally converted into sugar, so that at the end of an hour after the test breakfast if erythrodextrin be found we know that the digestion of starch is abnormally slow.

The conditions interfering with stomach digestion are improper quality or quantity of food, bad teeth, insufficient mastication, absence of hydrochloric acid, too low or too high a degree of acidity, whether due to hydrochloric acid, or to the presence of organic acids, diminished absorption, and dilatation or loss of motor power due to atony of the muscular coats.

An English paper reports the discovery of a real Mrs. Malaprop. She walked into the office of the judge of probate and inquired: "Are you the judge of reprobates?" "I am the judge of probate," was the reply. "Well, that's it, I expect," quoth the lady. "You see, my husband died detested and left me several little infidels, and I want to be appointed their executioner."—*Boston Budget.*

CURRENT LITERATURE CONDENSED.

Dangers of the Lean-Meat Diet.[1]

Practical experience, as well as theoretical considerations, lead to the conclusion that a lean-meat diet, continued for any great length of time, is incompatible with the highest health. For example, the leading medical teachers in France have for several years been sounding the note of warning against the use of an exclusive meat diet in diabetes, a disease for which lean meat was formerly supposed to be not only highly essential, but almost a panacea. A close study of the history of these cases has shown, however, that an exclusive meat diet is not infrequently a cause of death, through the accumulation of so great a quantity of ptomains within the body that the overworked kidneys are unable to cope with them.

Physiological facts which are known to-day fully justify the statement that a person subsisting upon a lean-meat diet, however comfortable he may be, however much relieved from various digestive inconveniences to which he may have been previously subject, is nevertheless in a pathological state, and one which is vastly more serious than the conditions which ordinarily arise from the simple fermentation or souring of saccharine or farinaceous foods in the stomach. The acids developed by such fermentations are irritating, and produce more or less disturbance, local and reflex; nevertheless, the ultimate effects are by no means so formidable as those of the insidious but far-reaching and tissue-changing poisons which accumulate in the body as the result of a lean meat diet.

The truth seems to be that a person subsisting upon a lean-meat diet, while he may manifest a greater amount of strength than upon a more natural dietary, and may be unconscious of any abnormal condition, is like a person in a powder magazine — he is in constant danger of vital catastrophe. The poison-destroying functions of his liver and the poison-eliminating capacity of his kidneys are taxed to their utmost to keep the proportion of ptomain and leucomains in the tissues down to a point which permits of the performance of the vital functions. The margin of safety, which nature has wisely made very large in order to provide for emergencies, is reduced to the narrowest possible limit, so that anything which temporarily interferes with the functions of the liver or the kidneys, or which imposes additional work upon them, may be sufficient to obliterate the safety margin, and produce an attack of grave or fatal disease. Invasion of the body by ptomain-producing microbes, such as the typhoid bacillus, the bacillus of diphtheria, the pneumococcus of Friedlander, the shocks resulting from accident, and even the depression of a severe cold, may be sufficient to consume the meagre emergency capital, and the result is acute inflammation of the kidneys, or death under chloroform or from shock following an operation under anesthesia.

It is evidently the duty of the physician who places his patient upon a lean-meat diet, to inform him of the fact that under such a dietary he is living close to the border-line, that his situation is like that of a man walking along the brink of a precipice, that he must on no account submit himself to the influence of an anesthetic without first undergoing a few days' preparation, including an entire change of diet; and the truly wise physician will further instruct his patient that however a lean-meat diet may be considered as a temporary expedient, it cannot be safely adopted as a continuous dietary without the risk of constitutional degradation and injury.

1 "Dietetic Fads," *Medical Progress*, April, 1896.

Cycling as a Cause of Heart Disease.[2]

The chief danger of cycling lies in the fact that a cyclist takes much more exercise than he is aware of or than he intends to, and is frequently tempted to overtax his powers. This overtaxing of strength may accompany efforts to reach a given point as laid down in plans for the day, or as is made necessary by certain exigencies. More frequently, however, the extra exertion is put forth in hill climbing. In this latter case, the heart has already as much strain put upon it as it can stand with impunity; but a glance

2 Dr. George Herschell, in *London Lancet*.

shows the rider that but a few more turns of the wheel will bring him to the top, and he redoubles his exertions, and the mischief is done. In club runs, again, while the start is made to correspond with the pace of the slowest riders, the fastest riders unconsciously quicken their pace, and the slower ones must follow at a rate entirely beyond their capacity or be left behind.

Excessive cycling, by the strain thrown upon the heart, may produce one of four conditions: (1) Simple hypertrophy. This is a compensatory effort on the part of nature to enable the work to be performed, and may terminate in recovery, in valvular disease and disease of the aorta, or in degeneration of the heart muscle. The latter condition is the common fate of a hypertrophied muscle. (2) Acute dilatation of the heart. This condition begins as soon as the cyclist shows signs of being 'short of breath.' Until this time, the blood pumped into the lungs and that pumped out into the tissues is equal in amount; but as soon as this symptom appears, there is an inequality in the delivery from the two ventricles, and if exertion is then continued, permanent damage will result. This condition may terminate in recovery, in the production of valvular disease, or in sudden death. (3) Chronic valvular disease of the heart. This trouble may arise as a sequel to acute dilatation of the heart, on account of the stretching of the auriculo-ventricular ring. It may arise as a result of hypertrophy from stretching of the aortic ring, from the giving way of a valve, or from the occurrence of sclerotic changes in the valves. (4) Functional derangement of the heart. This condition is very frequent as a result of cycling. The symptoms are palpitation, dyspnea, a sensation of sinking at the epigastrium, subjective sensations in the region of the heart, intermittency of the heart's action, and anginoid symptoms.

While the above enumerated dangers are constantly present to the cyclist, yet, in moderation and under proper conditions, it is one of the most health-giving forms of exercise, and is a potent remedial measure in established heart disease. As preventive measures against the dangers of this fascinating sport may be mentioned: (1) The use of a low gear; (2) the upright position in riding; (3) adequate food when riding and the avoidance of muscle poisons, such as beef tea; (4) the avoidance of preparations of kola and coca, which numb the sense of weariness; and (5) on no account should a cyclist continue riding after he has commenced to feel short of breath, or when there is the slightest sense of weariness in the chest.

Report on Cases of Puerperal Eclampsia.[3]

About one and one-half years ago I reported before this society six cases of eclampsia, five of which were treated by the hypodermatic use of chloral hydrate. Within the past two months I have had in my own practice two more cases of eclampsia. One case was about the eighth month of gestation; the os was commencing to dilate when she was suddenly taken with convulsions. She had three convulsions before I could deliver. The other case was a primipara, confined a little before the termination of the ninth month. The labor proved normal and was not of unusual duration. As everything about the case seemed normal I had not made an examination of the urine. In the previous case I had, about four weeks before the birth of the child, and found no albumen. In the second case, as I have stated, I did not make an examination. About twenty-nine hours after the birth of the child, she was taken with eclampsia and upon an examination the urine was found heavily loaded with albumen. The woman, however, had but one convulsion. I was called a few minutes after the convulsion and found her unconscious. In this case I used five grains of chloral hydrate hypodermatically. In addition to the drug, I subjected her to the wet pack and no convulsions followed. In both cases, the results obtained from the chloral hydrate were excellent.

I speak of these cases this evening, because I have been following the use of this remedy in some nine cases of my own, and counting those seen in consultation with other physicians, over a dozen cases, and in all of these there has been but one death and but one case in which there seems to be any mental disorder following the attack of eclampsia, something rather unusual.

[3] Dr. J. J. Green, before Allegheny Co. Medical Society

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, OCTOBER 17, 1896.

EDITORIAL.

THE DISCOVERY OF ANESTHESIA.

Fifty years ago, under the critical eyes of sceptical and unsympathetic medical men, in a public hospital, with none to share the responsibility for an experiment which jeopardized human life, and with no other resources than his own limited experience, a courageous dentist dared a demonstration which resulted in the immediate discovery to the world of an inestimable blessing. Friday, October 16, 1846, in the surgical service of Dr. John Collins Warren, at the Massachusetts General Hospital, William Thomas Green Morton administered sulphuric ether by inhalation, and produced thereby unconsciousness to a degree which rendered the subject totally insensible to pain and happily oblivious to the terrors of a surgical operation. Then was brought to pass what Oliver Wendell Holmes has written: "The fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed forever."

The date marks an epoch in history. The news of that portentous operation resounded throughout the civilized world. Nepenthe, the dream of poets, the quest of philosophers, the prayer of sufferers, was realized, and William

Thomas Green Morton was heralded one of the great benefactors of mankind.

The records of the Massachusetts General Hospital relate the circumstances of the operation. An extract quoted in the *Occidental Medical Times* gives an interesting account of the occasion:

"Gilbert Abbott, aged twenty, painter, single; tumor on face. * * *

"This case is remarkable in the annals of surgery. It was the first surgical operation performed under the influence of ether.

"Dr. Warren had been applied to by Mr. Morton, a dentist, with the request that he would try the inhalation of a fluid which, he said, he had found to be effectual in preventing pain during operations upon the teeth. Dr. Warren, having satisfied himself that the breathing of the fluid would be harmless, agreed to employ it when the opportunity presented. None occurring within a day or two in private practice, he determined to use it on this patient. Before the operation began, some time was lost waiting for Mr. Morton, and ultimately it was thought he would not appear. At length he arrived, and explained his detention by informing Dr. Warren that he had been employed in preparing his apparatus, which consisted of a tube connected with a glass globe. The apparatus he then proceeded to apply, and after four or five minutes the patient appeared to be asleep, and the operation was performed as herein described. To the surprise of Dr. Warren and the other gentlemen present, the patient did not shrink or cry out; but during the insulation of the veins he began to move his limbs and utter extraordinary expressions, and these movements seemed to indicate the existence of pain, but after he had recovered his faculties he said that he had experienced none, but only a sensation like that of scraping the part with a blunt instrument, and he ever afterward continued to say that he had not felt any pain."

Dr. Morton was the man to whom, by common consent, the world accords the chiefest honor for the discovery of surgical anesthesia, and this was the occasion which medical science accepts as its introduction and now commemorates by special observation of its fiftieth anniversary. Preëminent honor and glory is due to William Thomas Green Morton.

Yet, while pæans are sung in praise of Morton, due honor must be accorded to the man of science, the ripe scholar, who provided the opportunity for demonstration of what was but an empirical conclusion, and set the seal of his great reputation upon another's chance discovery to certify the fact and gain for it at once the serious attention of the scientific world.

Too little merit has been awarded to Dr. John Collins Warren for his part in the discovery. What this was will be evident when it is remembered that Dr. Warren was a most eminent surgeon of his day; that education and experience had shown the futility of every effort hitherto to eliminate pain from surgical procedures; that he was fully aware of the recent humiliating exhibition of Horace Wells, and the failure of "painless tooth-pulling" under the anesthetic influence of nitrous oxide; that he knew Morton was Wells's assistant upon that occasion; that he knew Morton, though a practicing dentist, was but a student in medicine, with only a student's knowledge of physiology and chemistry; that he himself was ignorant of the exact nature of the agent to be used; that all the precautions he could take were, at best, most unsatisfactory. He knew that failure entailed reproach and fatality meant disaster to himself. Dr. Warren was not foolhardy nor inconsistent. His decision was neither rash nor reckless. His attitude was conservative. But his was the conservation of humanity and of progressive science inspired of reasoning courage, and not the counterfeit "conservatism," the lion-skin disguise of long-eared arrogance and calculating cowardice.

A curious phenomenon is commonly observed in the promulgation of any new thing. It is too often met with in medical science. When a new idea is introduced, whether it be a great discovery, an operative procedure, an appliance, or perchance an instrument, even so insignificant as a catheter, no

sooner has its actual value been established than there arises a host of "priority" claimants who hesitate at nothing to become known of men. It was so with anesthesia. The story of its advent involves a dark tragedy and the most acrimonious and disgraceful contention in the annals of American medicine. But after fifty years the atmosphere has cleared enough to permit the righteous award of the honors involved.

George Foy, of Dublin, whose classical work on Anesthesia proves his right to speak with authority on the subject, in a letter to the REPORTER,* presents the claims for honorable mention of Thomas Beddoes, Richard Pearson and Sir Humphrey Davy, and incidentally relates the latter's first experience with nitrous oxide. These names are entitled to mention in the record, although their knowledge, practice or suggestions had nothing to do with the discovery and introduction of surgical anesthesia. The attempt of Sir James Y. Simpson to appropriate the glory of the great discovery may be considered as a temporary aberration of candor. The world knew the facts and eventually Sir James Y. Simpson himself gave credit where it was due. Although he did not discover or introduce anesthesia, he is entitled to highest honors for the invention and establishment of chloroform as an anesthetic, and especially for its obstetrical application. A few years since, Sir John Lubbock ascribed discoverer's honors to Sir Humphrey Davy and Sir James Y. Simpson. But the fact that he excluded other names must be regarded as the result of an insular idiosyncrasy rather than essential ignorance of the subject.

Surgical anesthesia is universally admitted to be the product of American genius. There are four names inseparable from its early history; three of them in association with each other, the fourth independent of the rest. One of the three receives supreme honors, and rightly. To the fourth belongs, if not the chiefest glory, great honor and undiminished personal respect.

If Horace Wells receives the credit for discovering nitrous oxide anesthesia, he has his full reward. His claim to a share in the discovery of surgical anesthesia by sulphuric ether is spurious and discreditable.

The deeper the examination of the claims of Charles T. Jackson, the deeper is his name involved in obloquy. That he had any standing in the contest, beyond the fact that he "suggested" to Morton the possible usefulness of sulphuric ether in the latter's experiment, was due to Morton's greed of gain. Morton endeavored to disguise the nature of the agent used by calling it Letheon, and under this name secured a patent. Jackson knew what the agent really was, and to prevent his divulging his knowledge, Morton allowed him a share in the patents. Fortunately for the world, sulphuric ether was immediately recognized despite its spurious name, and the effort to make its virtues a matter of barter came to naught. The patent was secured to enrich the owners. The only returns were dissension, disgrace and disaster, culminating in tragic death for each of the three men concerned.

The fourth name is that of Dr. Crawford W. Long, an obscure general physician, in the rural districts of Georgia. The history of Dr. Long's connection with anesthesia, together with the vouchers for his claims, has been clearly presented by Dr. Luther B. Grandy, in an article published originally in the *Virginia Medical Monthly*, from which a full abstract was made for the REPORTER.*

*Vol. LXXIV, No. 11, p. 345, March 14, 1896.

*Vol. LXIX, No. 17, p. 646, October 21, 1893.

There can be no doubt but Dr. Long was the first in point of time to discover anesthesia by sulphuric ether, and he was the first to apply the discovery to surgical procedures. Moreover, Dr. Long made no effort to keep secret his discovery, or the nature of the agent used. On the contrary, his work was common knowledge throughout the locality in which he practiced. But for some reason, either because he did not apprehend the full meaning of his discovery, or because of his isolated situation, or because he considered his experience insufficient to justify scientific conclusions, he failed to put his work on record, or even to make a preliminary announcement. He did not publish his discovery for the benefit of the profession and of the world. That was a cruel fate which, having bestowed the great fortune of making an immortal discovery, deprived the discoverer of the right to have his name written among the very foremost in the glorious list of benefactors to humanity. In one respect, at least, he stands preëminent. His motives were the purest, being without unworthy, selfish considerations. And he alone emerges from the bitter conflict with unstained personal honor and the undiminished respect of the world.

Everything considered, the decision awarding supreme credit to Dr. William Thomas Green Morton is righteous and satisfactory. Dr. Morton did not discover the condition of insentient passiveness produced by drugs, to which Oliver Wendell Holmes most happily gave the name anesthesia. From a time beyond which the memory of man goeth not, anesthesia by alcohol was the common knowledge and the not infrequent practice of articulate-speaking men. And there were other agents known and used to secure insensibility to pain. Neither was he the first to produce anesthesia by sulphuric ether; nor was he the first to apply anesthesia in surgery. But Dr. Morton's invention was original with himself. It was not the outcome of accidental discovery, but was the result of arduous and continuous labor. He started with a fixed purpose, and persevered in his efforts despite frequent and most discouraging failure. He tried one thing after another, making experiments upon himself. He was finally rewarded with the independent original discovery of the anesthetic properties of sulphuric ether. He did not rest content until he secured the publication of his discovery, and confirmed its truth by an incontrovertible demonstration of his achievement. He knew nothing of Dr. Long's work. Neither did the world.

Dr. Morton's triumphant demonstration, confirmed by the unquestionable authority of John Collins Warren's great reputation, both personal and professional, was the first authentic knowledge that an object, despaired of for centuries, was successfully realized.

A case in which abdominal section by a cow's horn was performed without fatal results in a non-pregnant woman is recorded in the American Journal of Obstetries by Dr. Skilling. The injury is of interest in relation to well-known instances of successful cesarean section carried out in the same manner. Skilling was called in shortly after the accident. The patient lay in bed, her clothing saturated with blood. Her countenance was anxious and pale, but there was only slight evidence of impending shock. The cow's horn had entered the abdomen just above the symphysis, a little to the right of the median line, and ran obliquely to the right, making a rent six inches long. The peritoneum was involved; the intestines protruded; loss of blood was relatively trifling. The intestines were replaced, the peritoneum closed by a continuous suture of fine silk, and the remaining layers of the parietes by interrupted silk sutures. Recovery was rapid and complete.

ABSTRACTS.

VERATRUM VIRIDE IN PUERPERAL ECLAMPSIA.*

Case 1. Mrs. J. K., aged seventeen and one-half years, primipara, at about full term was seized, without premonition, with a convulsion, once became unconscious, and one convulsion followed another in rapid succession, averaging four attacks every hour for six hours, until I saw her. A hasty examination of the abdomen revealed a gravid uterus at about full term. The full, quick pulse, that fairly snapped, giving the impression under the finger as being ready to explode upon the slightest compression, rate from 80 to 90, the general arterial excitement and nervous phenomena, all exactly fitted the classical description of puerperal eclampsia.

I quickly injected fifteen drops of Norwood's tincture of veratrum viride. The pulse at once softened and arterial tension abated somewhat. In fifteen or twenty minutes she had another convulsion of less marked duration and severity. About five or six minims more of the veratrum was injected within thirty minutes after the first dose. She had one more convulsion two and one-half hours after I first saw her, or two in all after the initial dose of veratrum.

Further examination revealed a dilatable os slightly dilated. I attempted to enhance dilatation as best I could with the fingers, in order that delivery should be accomplished as soon as possible, and, when dilatation had advanced sufficiently, forceps were applied without much difficulty and delivery accomplished of a stillborn child, evidently at full term. Efforts at resuscitation were fruitless. The third stage was completed without delay. The patient was put in as good condition as possible, and some hours later was left for the night, with the prognosis in doubt, though hopeful.

I used a catheter at my visit in the morning, and drew off several ounces of urine, which proved to be nearly one-half albumin. She passed rapidly and favorably into convalescence. The kidneys soon acquired their normal functions and albumin practically disappeared within a fortnight. Medication mainly consisted of Basham's mixture supplemented by appropriate diet and systemic tonics. For two days we used hot water uterine and vaginal injections with bichlorid 1-5000.

Case 2. Mrs. F. K., aged thirty-nine, was at about the eighth month of her second pregnancy, the first having terminated at full term in an uneventful manner about fourteen years before.

In the early months of her pregnancy she had an attack of rheumatism, accompanied by heart and kidney trouble, that nearly proved fatal. She never fully recovered, and throughout the summer she was a continual source of anxiety. She, however, managed to oversee and attend to her household duties until she was seized with a convulsive attack. Rapid delivery was decided upon and accomplished without much difficulty within four hours of her first convulsion. She had one or two convulsions in the meantime, and received fifteen minims of veratrum subcutaneously, followed within an hour by a second dose of five or six minims. Her circulation was fairly good and mind comparatively clear, so that she replied intelligently to simple questions. She was delivered of a male child of good proportions at about the eighth month, which lived about thirty hours.

Everything now apparently betokened a favorable termination. The pulse was comparatively soft, yet full, though giving no evidence of arterial excitement or increased pressure. The mental condition was clearing. The stomach was somewhat irritable from the large doses of veratrum. Altogether she was as well, if not better, than could be expected from her history of nephritis, with its attendant edema and dropsy which

* M. M. Bauer, M.D., before the Union Medical Association of Northeastern Ohio, June, 1896.

annoyed her all these months. A few hours later there was a return of the convulsions in an aggravated form which, in about twelve hours after her delivery, terminated fatally—asphyxia and exhaustion. In all she had six or seven convulsions.

To me these two cases were full of interest, occurring, as they did, within three or four days of each other, and having only a few points in common.

Case 1 gave a history of dropsy and edema of the extremities in the later months of pregnancy, and was seized with the sthenic form of convulsions, if the term is admissible, which continued almost without interruption, and with increasing severity for more than six hours, and promptly yielded to vigorous doses of veratrum viride. The mental faculties were completely obtunded for four days; the kidneys rapidly assumed their normal condition, at least so far as chemic tests demonstrated, and a general convalescence went on from the termination of pregnancy at full term in an uneventful career. Altogether the case looked very unpromising from the start.

Case 2 gave a history of rheumatism with endocarditis, followed by nephritis, dropsy and edema, labor setting in at about the eighth month with a convulsion of an apparently milder type; at any rate, the arterial excitement was not so marked; the convulsions were not so violent; consciousness returned in part after the convulsions, except the last one, there being but six or seven, about fourteen hours intervening between the first and the beginning of the last one, death ensuing from asphyxia in about fifteen or sixteen hours after the first attack. I am satisfied that in this case veratrum had a modifying influence.

Veratrum viride in eclampsia, in large doses from ten to twelve minims, preferably hypodermatically, is said to be distinctly an American practice. Dr. Herbert Fearn, of Brooklyn, in 1871, reported thirteen cases treated with veratrum in very large doses without a death. Later, Rushmore and Jewett, of Brooklyn, Oatham, of California, and Reamy, of Cincinnati, collected series of cases and called attention to the great value of this drug in the treatment of eclampsia. The dosage should be large, the state and condition of the pulse being the guide. Jewett says, "Experience seems to justify the statement that no convulsions will occur while the patient is sufficiently under veratrum to hold the cardiac pulsations below sixty per minute." The initial dose can safely be from ten to twenty minims, followed in thirty minutes or an hour, if necessary, by a smaller dose of from five to eight minims.

THE EFFECTS OF SNUFF ON THE HUMAN SYSTEM.*

Perhaps there is no article of commerce so common or more in demand, or has, comparatively speaking, a greater sale than that of snuff, especially in the Southern States, and there is certainly no article of commerce that is getting in its deadly work more surely and insidiously. Physicians generally seem not to have taken into due consideration its vast and deadly effects on the human economy, especially on that of the female organization, for by far the greater consumption of this article is by the women and girls of the South, mothers and daughters rivaling each other in the consumption of this noxious article.

It is a well-attested fact that snuff is an acro-narcotic poison and a positive debilitant, paralyzing to a greater or less degree all the functions of the nervous system, inducing palpitation of the heart and heart failure, and also a long train of cardiac affections. We have nausea, vomiting, chronic torpidity of the liver and its functions, vertigo and neurasthenia, the peristaltic movements of the intestines checked or sensibly impaired, micturition deficient and irregular, and at periods characterized by an unnatural flow, loss of appetite, foul breath, irregularity of pulse, insomnia,

* W. K. Grayson, M. D., Florence, Tex., in *Texas Medical News.*

impaired digestion, imperfect vision, loss of memory and failure of the mental powers, etc., etc. This statement is not exaggerated, overdrawn, or too high colored. Of course, all of these enumerated symptoms are not present in each and every case of snuff poisoning, but some of them are present in every case. The entire system is impregnated with its deleterious poisonous influence and odor, even to the breath and skin, as is it also on the nursing mothers' milk. How often is the physician called upon to treat a female patient; he makes his diagnosis, prescribes medicines to meet the exigencies of the case; what is his surprise and chagrin to find his prescriptions and medicine valueless, because, unknowingly to him, the patient is a snuff slave, and its use daily and hourly has thwarted and counteracted the beneficial action of the prescribed medicines. Physicians cannot be too careful in making very particular inquiry as to the habits of their patients; indeed, it is their positive duty to do so, both to themselves and their patients, of course with all due courtesy and politeness.

Permit me to give two typical cases coming under my personal observation. A gentleman came to me to consult me in regard to his wife, and requesting me to go and see her, saying she was troubled with nervous tremors, palpitation of the heart, insomnia, and general debility. On visiting her I found her condition about such as described by her husband. Skin very sallow, tongue white but browned over by snuff, breath repellant with the foul odor of snuff, and her general system in a very debilitated condition. I found upon strict inquiry that she was using, and had been using, a bottle of snuff per week, at all times during the day, and frequently at all hours of the night. Madam, said I, are you a clean woman? She looked at me rather indignantly and replied that she claimed to be so, asking me did I see anything about her person, apparel, or house indicating otherwise. I replied that I did not. Still, I said, madam, you are not clean physically. I will apply a test, or rather, you can apply the test yourself. If, upon applying said test, you pronounce yourself clean, I will treat your case free of charge. The challenge was accepted in good faith. I then directed her, on retiring at night, to divest herself of all clothing, envelope herself in a well-wrung wet sheet, lying in the same until early dawn, then remove the sheet and hang it out in the open air, and then tell the result of the experiment. She tried the experiment the same night and I saw her the next day, and she gave up without argument. In this case the use of snuff was totally abandoned at my request, and the patient treated strictly on hygienic principles, and in consequence she became a healthy, hearty, stout woman, and furthermore, a very grateful one, always giving great praise and sincere gratitude to the doctor.

The other case I will refer to quite briefly. I was called hurriedly from home to go a distance of sixty miles to see the only daughter of Judge P., who was pronounced by two well-known and competent physicians to be dying with pulmonary consumption. I was not sent for to take charge of the case, but merely to give my opinion in the premises. After a very careful and thorough examination, my diagnosis was snuff poisoning. After the death of the patient an autopsy was permitted by the parents. The lining membrane of the lungs was found to be thoroughly saturated with snuff, and also nearly every internal organ of the body. After the death of the young lady, a young female negro domestic said that her young mistress had used a bottle of snuff per week, charging her not to let her mother or any of the relatives or household members know anything about her using the article anyway.

I have thus briefly outlined the two cases as given above, hoping that some of the lay readers of the pages of your valuable periodical may appreciate the danger signals thrown out through its columns. Solomon says, "A word to the wise is sufficient."

Physician at Receiving Hospital (to driver of ambulance)—"Where are you going now?"

Driver (who has just brought in injured citizen)—"I'm going back to pick up the three people I run over while coming here with the patient."

OUR SELF-PRESCRIBING PATIENTS.*

To such as have studied the causes of the present decline in professional work it becomes a serious question whether there are not other elements than those attributable to stringent business relations that explain the condition. While the science of medicine has made great progress in the methods of diagnosis and treatment, the physician finds that his vocation, although more honorable and useful, is really less remunerative, and his legitimate practice is proportionately curtailed. There is no less sickness in the world, but the number of patients has markedly decreased. In fact, the sick ones are inclined to get the better of the doctor and to act more or less independently of his direct ministrations. It is not difficult to understand why this is so, when we consider the vast number of persons who willingly yield to the growing habit of prescribing for themselves. This tendency is fostered by the belief, in the majority of cases, that such prescribing is tacitly sanctioned by the profession itself by the use of many of the legitimate remedies so frequently ordered for the relief of the more common ailments. There is a very reasonable foundation for this conviction, and its responsibility rests more or less on the prescriber himself.

At the bottom of the whole business is the prevailing practice of delivering private clinical lectures to the patient on the nature, extent, progress, and outlook of his malady, and the indications for the use of special drugs in the treatment of certain conditions. While this may give evidence of remarkable learning on the part of the medical adviser and may help for the time being to establish his methods in the confidence of his client, it too often educates the recipient into the presumption of thinking and acting for himself. The most superficial knowledge is all that is necessary to this end, and, easily persuading himself that he has a repetition of the malady of which he has had such an authoritative opinion, he either repeats the prescription at will or purchases his former remedy in open market at the counter of the obliging pharmacist. Quinine, phenacetin, salol, morphine, pepsin, the mineral laxatives, and a host of other much-used medicines are given the currency of indispensable household articles. To such persons a diagnosis is a useless refinement, it being sufficient for their special purpose that their physician has given explicit directions how to use the supposed harmless remedies under what the patient believes to be similar circumstances. Not only this, but the remedy is freely prescribed to all his friends who are willing to trust to the blind chances of having a like ailment.

With shame be it said that very many of the pharmacists, far from discouraging such practices, not only willingly abet them but offer special inducements to purchasers by peddling the favorite prescriptions of well-known physicians. These drug sellers, for they deserve no more dignified title, do not prescribe themselves, but are willing to recommend the prescription of another, charging a round price for the trouble of dispensing it. When it is understood that the physician knows of this, it is not difficult to explain why so few prescriptions are written and why so many prescribers deal out their own medicines.

Aside from the purely business aspects of the question, this inconsiderate self-prescribing is in the highest degree detrimental to the community at large in stimulating an unnecessary consumption of drugs, in the formation of habits which eventually undermine health, and in directly jeopardizing life by the loss of valuable time in the prompt recognition and scientific treatment of many of the dangerous and insidious maladies of which the ordinary patient has no possible knowledge. The profession should always be ready with any information tending toward the prevention of disease, but any attempt directly or indirectly to teach therapeutics is fraught with untold evil to the giver and the receiver. The more the patient is kept in ignorance of the remedies prescribed, the better for him, and certainly, under the circumstances al-

*Editorial in *Medical Record*, September, 1896.

ready named, the better for the prescriber. The physician is never called in consultation with his patient, as the very nature of the case precludes the necessity of more than one opinion. The moment any argument is allowed on this point all proper respect for purely professional opinion is lost. This is one of the results of selling the birthright for a mess of pottage. The lesson is one which many of the too-obliging practitioners can take to heart.

NEGLECT OF THE TEETH IN COUNTRY DISTRICTS*

It is not generally known to the public, but it is an indisputable fact, that in no part of the Dominion is there more neglect of the human teeth, and more ignorance of their functional importance, than in the country districts of the Province of Quebec, and no less among the English than the French population. Physicians in Ontario, as a rule, avoid interference in the diseases of the teeth, excepting where there is no dentist within their limits, but in Quebec we have known, upon several occasions, young successors to medical men receive as one of the legacies of practice of their predecessor large jars or bottles full of extracted teeth, 90 per cent. of which a dentist would have saved! We have had many opportunities to observe the serious extent of the various diseases of the teeth in the eastern townships especially, and to learn from intelligent country physicians who do not make a business of extracting these organs that the constitutional and especially the nervous affections due directly to diseased teeth are alarmingly on the increase.

A large number of the affections of the eye and ear are traced to abnormal conditions in the mouth, and which get no radical cure excepting through proper dental treatment by experienced dentists. Digestion is impaired on account of the absence of the teeth. Beauty not only loses one of its chief charms, but strength loses one of its important aids. Sandow once said that he never knew a man of great strength who was a victim of dyspepsia, or who had bad teeth. There is no more common cause of headache, neuralgia, diarrhea, and various other disorders than diseased conditions of the teeth, and it is astonishing to reflect that in the mouth, the portal of life and health, many people will tolerate filthy conditions which they would not endure in any other part of the body. A whole train of obscure nervous and sympathetic affections owe their exciting cause to diseased teeth. There may be no decay or pain frequently, but the ears, the eyes, the stomach, the head, etc., suffer. The teeth are not merely mechanical mills to grind food, requiring only mechanical treatment by mechanically-educated men. They are as important and necessary to the mouth as the fingers to the hand; and even were it not so, the suffering following their neglect, and the decline of general health due to their loss or disease, should impel people to pay them more attention. It has been said that it is a wise dentist who knows his own teeth, and it is a fact that no one can faithfully examine his own or discover the beginnings of decay.

The sufferings endured by hundreds of neglected children, due to the silly superstition that the loss of temporary teeth, which should last seven years, is no functional loss, is something appalling in Canada, especially in country districts. Our farmers' families, especially, are martyrs to the effects of bad teeth, and frequently bad dentistry. They wait "until the tooth aches," and foolishly expect then that the dentist can perform a miracle upon an organ which, by the death of the "nerve," has lost its chief nutrition, or they let the physician extract it. It is questionable if the care of the teeth of cattle would not become popular if it could be proved that it would add to their market value, and yet the care of the human teeth, which contribute so much to the health of the entire body, is overlooked! No doubt

*Editorial, *Dominion Dental Journal.*

some of the prejudice entertained by country residents against dentists is due to the quacking and imposture of uneducated practitioners, who go about seeking teeth to extract and patients to swindle. But there are plenty of honest and skilful dentists; and it would be as unreasonable to condemn a whole profession for the iniquity of one, or even a whole practice, because of an occasional failure, as to condemn the entire practice of medicine because there are quacks in it, or because death occurred where recovery was expected.

SOCIETY REPORTS.

ALLEGHENY COUNTY MEDICAL SOCIETY.

August 18, 1896.

STOMACH DIGESTION.

[See page 494]

DISCUSSION.

DR. S. L. MCCURDY.—I should like to have the reader of the paper explain, later on, just what he means by the test breakfast.

DR. J. I. JOHNSON.—I wish to bring up a matter which, although not exactly in the line of stomach digestion, certainly has a bearing upon it. A young lady applied for relief who was suffering from a stricture of the esophagus. She had not eaten meat for a number of years. One day when she was feeling exceptionally well she ate a little piece of meat. It lodged in the esophagus and then she could swallow nothing at all, not even liquids. She applied for relief and we tried to pass a tube, but although we made quite a number of attempts we were unsuccessful, but in removing the tube we noticed some disintegrated pieces of meat. One of the house doctors standing by suggested the plan of introducing a meat digestive principle into the esophagus. We gave her some essence of pepsin and hydrochloric acid. We followed this treatment again in a few hours, and the next day the patient could swallow liquids without any more difficulty than she had experienced before eating the meat.

DR. ADOLPH KŒNIG.—The better we understand the physiology of digestion the better we are able to apply our remedies in conditions where the digestive organs fail to do their usual work; but as digestion, primarily speaking, is a matter of glandular activity, it seems to me rather reasonable to expect very little good effect from the administration of artificial digestants, except in so far as they, for the time being, allow the patient to receive a little more nourishment, but the administration of these remedies does not increase the glandular activity. I have recently had some experience with another remedy that seemed to act well where the enzymes seemed to have but little effect. Potassium iodid given in small doses seemed to act almost like a charm. I concluded it was due to the stimulating effects produced by the iodid upon the glandular system. In my experience this drug has produced most excellent results in functional gastric derangements.

I should like to have a little more information regarding the rennet substance in the stomach, the milk-curdling substance.

DR. J. J. GREEN.—I would like to ask Dr. Kœnig about the duration of the beneficial effects resulting from the use of the iodid.

DR. KŒNIG.—The good results are reasonably permanent, but any error in diet will cause a recurrence of the indigestion.

DR. FRANK MURDOCH said in conclusion: In regard to the test breakfast, I would say that there are a good many different kinds, but the one commonly used is Ewald's, and that consists in giving the patient a single Vienna roll to be eaten slowly and thoroughly masticated. No butter is given with the roll, but the patient is permitted to drink a cup of tea without cream or sugar. An hour after this test breakfast has been eaten, the contents of the stomach are taken and analyzed.

I considered the action of rennet pretty thoroughly in my paper. Both rennet and pepsin are secreted by the small or central cells of the gastric glands. The rennet we know is present from earliest infancy, because infants can digest milk very well, but it does not exist as rennet; it exists as a rennet zymogen and requires the presence of hydrochloric acid to effect the change. Sometimes we see gastric juice that is neutral in reaction, and yet it contains the rennet zymogen, and if we add a little dilute hydrochloric acid to the portion of the gastric filtrate it will then curdle milk, although it would not have pro-

duced this action before the addition of the acid.

REPORT OF CASES OF PUERPERAL ECLAMPSIA.

[See page 497]

DISCUSSION.

DR. G. W. MCNEIL.—My attention was called to the use of chloral hydrate by Dr. Green. Since that time I have had an opportunity to test it in three cases. In the first case, a primipara, after the labor had progressed for some time a violent convulsion occurred. I used inhalation of chloroform and delivered at once with forceps. After delivery the convulsions continued; I then used chloral hydrate, hypodermatically, five grains in warm water; repeated the same dose in one hour, making in all three injections, after which convulsions ceased. Albumen was found in the urine; the mental condition was slow and sluggish for one week.

The second case, a large plethoric woman, was taken with eclampsia in her first confinement as labor was progressing; I used chloroform until the child was delivered, and then chloral by injection; three convulsions occurred after delivery; this patient had albumen in the urine. The mental condition improved slowly. She did not know she had convulsions until told of the fact.

The third case, also a primipara, had labor ushered in by convulsions. She was delivered by instruments, and chloral administered hypodermatically, and had but one convulsion after delivery. Her recovery was rapid, and no mental symptoms whatever followed. I think the drug is worthy of careful trial. I have the utmost confidence in its safety. The rapid relief from convulsions and the clearing of the urine that follows, is astonishing.

PERISCOPE.

SURGERY.

A New Method of Treating Pneumothorax.

Futterer (*Medicine*, June, 1896) describes a case in which a patient came under his observation with right pneumothorax, originating in a perforation of the pleura of the right lung, apparently owing to a tubercular affection, though tubercle bacilli were not found.

The patient had lost forty pounds in weight; he was anemic, had an anxious expression, and breathed very heavily. The right half of the chest was distended; there was a small quantity of fluid in the right pleural cavity, and succussion was elicited. The apex of the heart was pressed over to the left median axillary line; the diaphragm was pressed downward, and the liver also, the latter almost reaching the umbilicus. The temperature varied somewhat, the highest, during the first three days, being 102.8 degrees; the pulse varied between 98 and 112, and the respirations between 32 and 40.

Dr. Futterer decided to try to again create a vacuum in the right pleural cavity, but waited some weeks to allow the patient to recover from the nervous shock and to gain strength, as well as to permit the perforation to heal up.

Twenty-nine days after the perforation, a trocar and tube were introduced into the right pleural cavity, a little to the right of the middle line, in the first intercostal space of the right side. The trocar was withdrawn and the tube left in position. Another trocar and tube were introduced into the pleural cavity through the sixth intercostal space in the middle axillary line, and through this tube the whole right side of the chest was filled with a sterilized and filtered mixture of a 0.75 per cent. solution of oil of cloves and water, oil of cloves being the most powerful and least harmful antiseptic against the tubercle bacilli. The patient was in such a position that the place where the upper tube had been introduced was about the highest point of the right side of the chest, so that by filling the pleural cavity with liquid most of the air contained in the pleural cavity was forced out through this upper tube. When this had been accomplished as well as possible, the upper tube was removed, and the opening closed by cotton and collodion. The patient at this time was breathing heavily; was pale, cyanotic, and covered with perspiration. Some of the liquid was at once removed, lowering the level to the second intercostal space; the lower tube was then taken out and its opening closed in the same way as the other, and the patient was then left, no longer complaining of discomfort. The apex of the heart was now pressed over to the left posterior axillary line.

A fortnight later, 1,000 cc. of fluid were aspirated, and five days later the apex beat was found in the sixth intercostal space at the anterior axillary line.

The first and second intercostal spaces showed retraction; the liver dullness extended one and three-quarter inches below the costal arch in the right mammary line.

Eight days after the aspiration of 1,000 cc., 1,200 cc. of liquid were removed by aspiration, and a few days after this the apex beat was found one and one-eighth inch outside the nipple line, and one inch inside the anterior axillary line. The liver dullness extended only one and one-eighth inch below the costal arch in the right mammary line. Over the

right lung breath sounds could be heard over the apex in the first, inner half of second and inner half of third intercostal spaces.

A portion of the liquid aspirated on this occasion showed no development of bacteria after inoculation into culture tubes containing serum.

A further aspiration of 1,000 cc. of liquid was made later on, the apex beat after this being only one-eighth inch outside the nipple line, and the liver dulness moved upward. Air was still present in the pleural cavity, as indicated by the possibility of obtaining succussion; but the condition of the patient was much improved; he both looked and felt well.

The author thinks he might have aspirated larger quantities at a time, and shortened the intervals in order to hasten recovery, but he desired to have longer contact of the bactericidal liquid with the pleura.—*Med. Chron.*

THERAPEUTICS.

A Case of Antipyrin Eruption.

Webber records (*Lancet*, June 6, 1896) a case of a female patient, aged fifty-three years, who had two months previously undergone supra-vaginal amputation of the cervix uteri for cancer. On December 7, 1895, he found the entire surface of her body covered with a copious eruption exactly resembling in appearance that of a severe case of measles; the face and eyelids were also swollen. The temperature was 101.4° F., and the pulse 102. She had been taking ten-grain powders of antipyrin twice daily for the previous three weeks for the relief of pain extending down the right thigh. These had produced no ill effect, but it appeared that on the evening of December 5th she had eaten some unwholesome food, the result of which no doubt interfered with the proper elimination of the drug. Three grains of calomel and a mixture of ammonium acetate were prescribed, and the next morning the skin was almost free from eruption, the swelling of the face had subsided, and the temperature had fallen to 98°. The antipyrin was omitted and pills containing a quarter of a grain of morphia were substituted. Finding, however, that these did not relieve the pain so well as the antipyrin had done, after a few days the patient recommenced taking the powders. After the second dose swelling and redness of the face came on, and she had to again leave them off. No symptoms of cardiac depression appeared to be produced by the drug in this case.

Fatal Petroleum Poisoning in a Girl Two Years Old.

Dr. Axel Johanssen relates (*Norsk Magasin for lævidenskaben*, June, 1896) the case of a little girl two years of age who had drank an unknown amount of petroleum from a beer bottle. Taken immediately to the "Rigshospital," she was found to be pale, with cyanosed lips, embarrassed breathing, drowsy, but not unconscious. There was nothing on the lips or the tongue; the tonsils were slightly swollen. The pulse was 144, slightly irregular; cardiac sounds normal; respiration 56; temperature 37.5° C. The introduction of a finger into the pharynx provoked vomiting of mucus with a little blood, and having an odor of petroleum. The stomach was washed out, and the contents of the intestine removed by help of an injection; they smelled also of petroleum. In spite of stimulant treatment, the child became gradually more drowsy and died at the end of three hours.

At the autopsy, the pleural cavities, which appeared normal otherwise, were found to contain 30 to 40 cc. of a limpid liquid having the odor of petroleum. There was hyperemia of the mucous membrane at the bifurcation of the trachea. By pressure on the lungs a very fluid liquid was squeezed out of the bronchi, smelling markedly of petroleum. The lungs were of the normal size, but rather heavy; in their whole extent they presented a dark reddish-blue color; only the anterior parts were crepitant. The stomach was distended with gas and contained a little petroleum, the mucous membrane was pale, without excoriations or ulcerations. The other organs showed nothing abnormal.

The author takes occasion to discuss the clinical and toxicological properties of petroleum, giving references to several papers connected with the subject.

NEWS AND MISCELLANY.

The regular meeting of the Medical Section of the Buffalo Academy of Medicine was held October 13th. Papers read were: "The Use of the Stomach Tube," Dr. A. L. Benedict; "Acute Plural Effusions in Children," Dr. J. C. Clemensha; "Dangers of Over-Bicycling, with Report of Case," Dr. W. C. Krauss.

At the recent annual meeting of the staff of the State Asylum for Chronic Insane of Pennsylvania, at Wernersville, the following officers were re-elected for the ensuing year: President, Dr. W. Murray Newman, of Reading; Vice-President, Dr. Wm. M. Guilford, of Lebanon; Secretary, Dr. S. S. Hill, of South Mountain. The resignations of Dr. Jas. Tyson and Dr. W. W. Keen were transmitted to the Trustees, which vacancies have been filled by the appointment of Dr. Fred. A. Packard, of Philadelphia, and Dr. John F. Carpenter, of Pottsville.

The ninth annual meeting of the Southern Surgical and Gynecological Association will be held in Nashville, Tenn., November 10th, 11th and 12th. Those who contemplate attending the Pan-American Medical Congress, to be held in the City of Mexico, November 16th to 19th, will have

time to do so after the meeting of the Southern Surgical and Gynecological Association. A rate of one fare for the round trip has been made on account of the Congress, stop-over privileges being allowed holders of tickets therefor.

The following is a partial list of the papers to be read: "President's Address," E. S. Lewis, M.D., New Orleans, La.; "Acute Mania Following Surgical Operations," Joseph Price, M.D., Philadelphia, Pa.; "Treatment of Carcinoma Uteri," Jas. T. Jelks, M.D., Hot Springs, Ark.; "Maternal Impressions and Their Influence upon the Fetus in Utero," illustrated by photographs, C. H. Mastin, M.D., Mobile, Ala.; "Ureteral Anastomosis," J. W. Bovee, M.D., Washington, D. C.; "Splitting the Capsule for Nephralgia, with Report of Cases," George Ben Johnston, M. D., Richmond, Va.; "Vaginal Drainage in Surgery of the Uterus and Other Pelvic Structures," W. H. Wathen, M.D., Louisville, Ky.; "Peculiarities of the Surgical Diseases and Injuries of the Neck," Edmond Souchon, M. D., New Orleans, La.; "The Dry Method in Intra-Uterine Surgery," Edwin Walker, M. D., Evansville, Ind.

The matter of consanguineous marriages is made the subject of an interesting brochure by Dr. Paul Perrin, who discusses the matter from the earliest historical periods and bases deductions thereon from physiological as well as moral points of view. The Persians, Medes, Hindoos, and Ethiopians married with their mothers, daughters, and granddaughters in considerable proportions, and the first-named accorded a special consideration to the children born of marriages between mother and son. Amongst the Greeks, brothers and sisters of the same father but of different mothers could marry. At Athens, the brother, when sole heir, was obliged to marry his sister or to give her a fortune. When the Ptolemys, of Grecian origin, became sovereigns of Egypt, they intermarried in the interest of the dynasty. Cleopatra, who issued from this family, married her two brothers, Ptolemy XII, and Ptolemy XIII. On the other hand, under the Roman empire, alliances between relatives were severely prohibited; thus the marriage between uncle and niece was considered as incest, while marriages between cousins, after having been permitted for some time, was finally forbidden under pain of death. The Arabs married with their mothers until Mahomet, but the Prophet forbad such unnatural unions as well as many others when he came to power. The natives of Peru, Brazil, and California seemed to have paid but little attention to consanguineous alliances, but they were severely punished by the Mexicans. The Chinese Legislation forbids marriage between persons in the remotest degree related, and strange to say, the same law is in force in Turkey, where polygamy reigns supreme. The Roman Catholic Church, too, has shown herself in general severe against blood marriages. The Council of Tolide, in 531, prohibited them absolutely, but later on other councils showed themselves less rigorous, permitting marriages between first cousins, but as soon as Pope Gregory the Great came to the throne he cancelled that permission. To come down to modern times, consanguineous marriages are not infrequent in France. Statistics show that the annual average of marriages between aunts and nephews is 58, between uncles and nieces, 168, and between first cousins, 2,930. In Great Britain, although both the English and Roman churches forbid such marriages when they are known beforehand, they, nevertheless, are occasionally consummated.

A new medical journal will appear in January, published at Edinburg, Scotland, as a rival to the old Edinburg *Medical Journal*. The latter has lately been sold to a new publisher, and a new editor appointed. The new venture is to be the "property of the profession" and is said to have strong financial and literary support.

Cases of focal and Jacksonian epilepsy upon which he has operated, are reported in the August Annals of Surgery by Dr. C. B. Nancrede. The course pursued by these and other cases of epilepsy upon which he has operated, confirm the conclusion to which he has been reluctantly forced that (a) removal of the discharging lesion in cortical and Jacksonian epilepsy can only be regarded as palliative, the operative scar, in all cases thus far accessible to him, becoming in time a new source of irritation. (b) The earlier the operation is done after the disease becomes fully established the longer will the immunity last, and it is possible that if trephining is done very early the operation may in a few instances prove curative, especially if any reliable method can be devised to lessen the extent of the inevitable scar and adhesions between the brain and the membranes. (c) That operation is not so dangerous in competent hands as to forbid our urging trephining in this class of epilepsies, especially when done early, because the chance of prolonged immunity is great, and the fits are apt to be slighter and to recur at greater intervals after relapse than before trephining. (d) Removal of the discharging lesion is imperatively demanded as a life-saving measure in those rare cases where the intervals between the fits are so short that the paroxysms are practically continuous. (e) In all cases, but especially in those characterized by frequent paroxysms, it is an error in practice to permit the early resumption of work, particularly manual labor. Thus, the author calls attention to a case in which he trephined for ordinary traumatic epilepsy, which remained perfectly well for nearly two years, until, attempting to lift a heavy weight, the encephalon becoming suddenly congested, the patient at once had a fit, since when the convulsions have been nearly as frequent as

they were before operation. (f) Operation removes only one of the factors productive of epilepsy, but the ready response to inadequate stimuli still remains, and can only disappear, if ever, after a prolonged period; therefore, careful avoidance of everything which either through the mind or body can excite sudden and severe acute cerebral congestion, or undue prolonged mental strain, constant congestion of the nervous centres, must be avoided for the longest practicable period—for the remainder of life if possible.

Nervous manifestations of diagnostic value in syphilis are enumerated as follows by Dr. J. Allison Hodges, in a paper read recently before the Richmond Academy of Medicine and Surgery:

1. Headaches, which disappear if paralysis occurs.
2. Insomnia, nearly always associated with headache, and disappearing with the appearance of convulsion or paralysis. It differs from the insomnia of neurasthenia and melancholia in that it occurs in the early night, the victim arising in the morning ready for his daily labor.
3. Vertigo, occurring usually with the headache. It may be transient, but becomes worse as the disease progresses.
4. Tremor, present in one-half of the cases. It occurs most often in the order named: In the hands, tongue and over the whole body, and is accompanied by headache. If it occurs in a limb, it is the precursor of paralysis of the limb.
5. Hemiplegia.
6. Erratic distribution of paralysis, as aphasia with or without hemiplegia, ptosis, insanity or epilepsy, with paralysis of one arm or leg. It is suggested that ptosis occurring suddenly points nearly always to syphilis.
7. The use of electricity to determine central or peripheral lesion.
8. The presence of great weakness and mental dullness. This is one of the most valuable of the nervous manifestations, being out of proportion to the seeming condition of the patient.
9. History of the case. In women, the history of many abortions in succession would point to syphilis.

When applied to the skin or a mucous membrane burnt by carbolic acid, according to Prof. Carleton (*La Semaine Medicale*), vinegar causes a quick disappearance of the characteristic whiteness, as well as the anesthesia produced by carbolic acid, and prevents the formation of a slough. It also neutralizes any carbolic acid that may have been introduced into the stomach. In cases of poisoning, then, the first thing to do is to make the patient drink some vinegar mixed with equal parts of water, and to wash out the stomach. According to Billroth, soap is an antidote in carbolic-acid poisoning.

In cases of suspected tuberculosis, the fever thermometer approaches most nearly to the zenith of its perfection and utility as a diagnostic instrument, says Dr. C. W. Ingraham in the *Medical Record*. From close observation in a large number of cases, I feel sustained in the assertion that a rise of temperature of from one-half to one degree at some period of greater or less duration every twenty-four hours may be regarded as the first symptom of pulmonary tuberculosis. I believe that this rise of temperature, as a rule, occurs previous to every other symptom, except when tuberculosis follows in the wake of some acute disease without intervening recovery of health. At the very beginning of tubercular involvement, with the formation of the first tubercular nodules, is the most promising period to successfully treat the disease. At this stage, the patient raises no infected sputum, which excludes the use of the microscope. The physician is not justified in deciding positively that a disease is non-tubercular until he has before him a complete record of the patient's temperature, showing no recurring daily elevation, for a period of two weeks. An elevation of one-half a degree, occurring daily at some time in the afternoon or evening, should cause a strong suspicion of tuberculosis. An elevation of one degree during a similar period will justify a positive diagnosis of pulmonary tuberculosis, and this diagnosis will in ninety per cent of cases be confirmed by microscopic examination at a later period. With a fever thermometer and a microscope in our possession, and by intelligent use of the same, we are in a position to render tubercular subjects a most accurate and scientific diagnosis.

The relation that the ovaries bear to the determination of sex has recently been made the subject of a series of observations by Seligson (*American Druggist and Pharmaceutical Record*). His theory is that ova from the right ovary develop into males, those from the left into females. Experimenting upon rabbits, he found that when the right ovary had been removed, only female young were born, while when the left ovary had been extirpated, only male young were brought forth. But he further draws attention to another fact. He states that in all the cases of tubal pregnancy of which he could obtain notes, where the sex of the fetus was given, nineteen in all, those of the right side were without exception males and those of the left females.

It is easier for an American to get the degree of Ph.D. at most of the German universities than it is for him to get it at any one of the dozen or more American universities of the highest grade. In Germany, it is the lowest degree given, hardly more than equivalent, if, indeed, it is equivalent, to our Master of Arts. Yet many among us, who care little for their A. M., would be proud to flourish a Ph.D. from a German institution.—*Medical Times.*

The two-fold spectra exhibited by oxygen and nitrogen have been made the subject of investigation by Mr. Baly (*Medical Record*). The popular persuasion is that all the atoms of a particular element are exactly alike. Gaseous molecules are free to move in any direction, and when gas or vapor is rendered luminous, as by passing an electric spark through it, unlike an incandescent solid or liquid, it does not give a continuous strip of color in the spectroscope, but a number of bright lines at intervals separated by dark gaps. If, while the bright lines are being observed, a beam from an electric light or lime-light is directed toward the spectroscope, they are seen as dark lines upon the ribbon of variegated color, which distinguishes an incandescent solid. The change is supposed to be due to the absorption by the gaseous molecules of light of certain definite wave-lengths. Mr. Baly's observations go to show that the variability in the spectra of oxygen and nitrogen is due to some profound difference of condition in the gas under different circumstances. For the gas that collects about the point whence the sparks leap across the containing vessel, after a little while is slightly dimmer or lighter than at the other. One of two results must follow: Either those gases (oxygen and nitrogen) are not elements, or there are two kinds, one with an atom a little heavier than the other.

That there is no agony in dying is the conclusion of a writer in *Scribner's Magazine*. He says that two ideas are very generally adopted which experience shows to be false. One is that the dying usually fear death; and the other, that the act of dying is accompanied by pain. It is well known to all physicians that when death is near, its terrors do not seem to be felt by the patient. When Nature gives her warning, death appears to be as little feared as sleep. People almost always come to understand that recovery is impossible; it is rarely needful to tell anyone that this is the case. Most sick persons are very, very tired. Sleep—long, quiet sleep—is what they want. I have seen many people die. I have never seen one that seemed to fear death, except when it was or seemed to be rather far away. Even those who are constantly haunted, while strong and well, with a dread of the end of life, forget their fear when that end is at hand. As for the act of dying—the final passage from life to death—it is absolutely without evidence that the oft-repeated assertions of its painfulness are made. Most people are unconscious for some hours before they die; and in the rare cases where consciousness is retained unimpaired until a few minutes before the end, the last sensation must be of perfect calm and rest. (Some have testified that it is exceedingly pleasant). It is worse than cruel to add to the natural dread of death which oppresses the majority of us while in good health, the dread of dying.

A case of congenital occlusion of the urethra is reported in the *Medical Record* by Dr. Theo. G. Davis, of Bridgeton, N. J., in a female child who did not pass water for three days, when his attention was called to it. On examination no urethral orifice or urethra could be found, but upon inserting the little finger into the vagina, about an inch and a fourth, there could be felt a fluctuating body, evidently the distended posterior urethra. With a finger in the vagina as a guide, a small trocar was thrust through the tissues where the urethra should have been and a small catheter was passed through the cannula into the bladder, where it was retained for four days, the urine being passed through it until it was removed and then through the wound made. The girl is now eleven years old and has always had perfect control over urination.

The active infecting principle in per-tussis, according to Prof. Kurloff (*Medical Press and Circular*), resides in an ameba or small granular protoplasmic mass with inherent motion and the power of throwing out ameboid projections. After this ameboid body has obtained a definite size, clear refracting nuclei can be observed in its interior, which gradually increase and finally congregate as spores in a concentric sheath. When this envelop bursts, the spores are set free and are easily transported to a suitable medium where they germinate and repeat the same ameboid cycle.

Chlorosis is no contra-indication to marriage, according to Grosset (*Medical News*). He has made an exhaustive research into the subject, and draws these conclusions:

1. The physical and spiritual excitement which marriage offers a chlorotic girl can have only a favorable effect upon her disease.
2. The sterility of chlorosis is only a temporary one in most cases, the rare instances of infantile genitals being excepted.
3. Chlorosis does not predispose to abortion.
4. The children of chlorotic women are likely to be chlorotic, but seem to show little tendency to become tuberculous.

Some of the old-time popular sea-side resorts of Southern New Jersey, which for years have suffered for lack of adequate railroad accommodation, are showing in a notable degree the results of the present improved transportation facilities. Those who "go down to the sea" by rail, now may leave Philadelphia and reach Sea Isle City within seventy minutes, or Cape May within 100 minutes. This great improvement is the result of the excellent facilities and superior service afforded by the South Jersey Railroad. Express trains leave Chestnut Street and South Street wharves for Sea Isle City 9.15 A.M., 4.15 P.M., and 5.15 P.M; for Cape May 9.15 A.M., 2.15 P.M., 4.15 P.M., and 5.15 P.M. In addition there is on Saturdays the 1.00 P.M. "Flyer," for both Sea Isle City and Cape May.

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2068. SATURDAY, OCTOBER 24, 1896. VOL. LXXV—No. 17

ORIGINAL ARTICLES.

ESSENTIAL PAROXYSMAL TACHYCARDIA—REPORT OF FOUR CASES.*

ALOYSIUS O. J. KELLY, A.M., M.D.,† PHILADELPHIA.

By essential paroxysmal tachycardia is understood a disorder characterized by the occurrence of paroxysmal attacks of abnormal frequency of cardiac action of unknown genesis. In cases presenting these manifestations there is demonstrable no lesion, either of the heart itself or of other organs, which latter, if present, might engender the symptom tachycardia. We thus distinguish between a disease-entity, so to speak—*essential paroxysmal tachycardia*—and that tachycardia which, although it may manifest itself in paroxysms, is but symptomatic of many and diverse diseased conditions of various organs—*reflex*, or *symptomatic tachycardia*. The subject may be illustrated by detailing the histories of four cases.

CASE 1.—D. B., a native of Ireland and a quarryman by occupation; is a widower, aged sixty years. His father died of typhoid fever, his mother of some cause not ascertainable. He has had five brothers and one sister. Three brothers and one sister died of causes not ascertainable. Two brothers are living and are presumably well. He has had three children, two of whom are living and well; one died of some cause not ascertainable. With the exception of having had scarlet fever when young, the patient has always enjoyed good health. He never had rheumatism. His cardiac trouble is of ten or eleven years' duration. One day while working on a building he fell a distance of forty feet to the ground, alighting on his left side "near the heart." His ribs are said not to have been fractured, and he was confined to his bed for ten days after the fall. It was at about this time that he noticed something unusual with his heart. Since then he has had trouble with his heart of a similar nature, which usually manifests itself in attacks coming on at irregular intervals. These attacks, while they occur usually in the sequence of some exertion or emotional excitement, are frequently of spontaneous development. They are commonly ushered in by great palpitation of the heart and

* Read before Philadelphia County Medical Society, October 14, 1896.

† Visiting physician to St. Mary's Hospital; Pathologist to St. Agnes' Hospital; Pathologist and Clinical Assistant to the Neurological Department of the Philadelphia Polyclinic; Assistant to the Medical Dispensary of the Hospital of the University of Pennsylvania.

vertigo, the palpitation usually preceding the vertigo, though the latter is said to be at times the antecedent symptom, especially when a sudden lowering of the head precipitates an attack, as occasionally happens. The patient characterizes his greatest complaint as weakness, which is present during the attack and sometimes persists for a variable length of time afterward. This weakness is often excessive, but recovery is usually prompt. The patient says that during the attacks he has flushings of the head and neck, with subjective sensations of heat and sweating, but his statements are not to be entirely relied upon. The attack is usually accompanied by some dyspnea, but this is never marked. The man has no pain whatever in the region of his heart or elsewhere, no cough, no expectoration, no headache, no tinnitus aurium, no dimness of vision. The attacks may occur once a month or twice a week, and are apparently not of more frequent occurrence lately than they were some years ago. They last from an hour to two days; usually about a half a day or longer. Some of the minor attacks so little incommode him that he is able to go on with his work during their continuance. In some of the attacks he feels as though he would fall did he not support himself or receive assistance from others. He sleeps well, and is not nervous. His appetite is poor, and he has occasional epigastric distress and distention with gaseous eructations after eating, but no nausea or vomiting or constipation. He has no symptoms referable to his genito-urinary organs. He denies having had any venereal disease. He uses alcohol and tobacco to excess.

On examination the man exhibits evidences of excessive indulgence in alcohol and exposure to all sorts of weather. He is tall and sturdily built; has a rugged countenance, with many minute dilated blood-vessels. He frequently exhibits some tremor following excessive potations, and his statements and answers to questions are as desultory and unreliable as is usual with ardent votaries of Bacchus. Physical examination of his lungs and abdominal viscera is negative. His urine is normal. His cardiac dullness reaches superiorly to the upper border of the left fourth rib at its junction with the sternum, and inferiorly from the left edge of the sternum to one inch within the left midclavicular line in the fifth interspace, at which point the apex-beat can be felt.* The auscultatory signs vary greatly with the time of observation. During the past ten years, his heart has sometimes been found by my father beating normally from seventy to eighty times per minute. Very frequently it is to be found beating between one hundred and two hundred times per minute, and this often without any apparent discomfort on the part of the patient. I have frequently counted it a hundred and ninety-two and again two hundred and sixteen beats to the minute, and have had the patient remark that his heart was then not bothering him at all. When the patient has what he himself recognizes as a severe attack, it is practically impossible to count the heart-beats. When beating with such excessive frequency, without much annoyance to the patient, the heart varies in action from minute to minute as many as twenty or thirty beats; and it will as suddenly drop from two hundred or thereabouts to a hundred and twenty as it will suddenly mount from a hundred and twenty to two hundred. It formerly used to drop suddenly to seventy or eighty and suddenly mount again to two hundred, and while this may still occur, it has not been observed lately, as the patient is seldom seen. There are no murmurs audible. The second aortic sound is somewhat accentuated. The peripheral arteries are a trifle hard. During the attacks of excessive palpitation it is almost impossible to count the pulse in the carotids or radials. As one would anticipate, the pulse is small and running, and while it can hardly be counted, one can appreciate that it is very frequent. Again, one is at times inclined to think that he discerns in the peripheral arteries about one-half the number of pulsations as there are distinct heart-beats detectable at the precordium; but this observation is not reliable. The left pupil is slightly larger than the right; both react well to light and in

* This area of cardiac dullness has never been found to vary, either during or between the tachycardiac paroxysms.

accommodation. The thyroid gland is not enlarged. Dermographism could not be demonstrated, nor factitious urticaria produced. There are no mottlings of the skin, and no hemorrhagic tendency.

Case 2.—F. H., a married white man, aged fifty years; is a native of Ireland, and a laborer by occupation. His parents and five brothers died of causes not ascertainable. One sister is living and well. He has himself had two children, both of whom are living and well. He always enjoyed good health, until fifteen or sixteen years ago, when he had rheumatism in his left hip, and he has been more or less troubled in the same way ever since. Seven years ago he had an attack of influenza, with marked pulmonary symptoms, which he thinks progressed to pneumonia, but this is doubtful. It was directly subsequent to this that his heart commenced to trouble him. He then began to suffer with attacks of excessive palpitation of the heart, accompanied at times by some precordial pain and dyspnea, a sensation of fulness in the head, headache, vertigo, dimness of vision, left-sided tinnitus aurium, flushing of the left side of his face and neck, with profuse perspiration in the same regions; anxiety, and frequent sensations as though he would fall. He is not known ever to have fallen, and never manifested any cyanosis, nor did he ever lose consciousness. The attacks were and frequently are precipitated by stooping at his work. They are of variable severity and duration, lasting from five minutes to a day. The minor ones may be repeated several times in one day. Since they commenced he has not passed an entire week without at least one attack of palpitation of the heart, which, however, is not always accompanied by precordial pain and the other symptoms already detailed. During the attack and for a variable length of time afterward, depending upon its severity, he is very weak. While the majority of the minor attacks, unless provoked by stooping or other manifest cause, develop suddenly, without any warning, he is usually able to presage the development of a severe attack by the occurrence of a premonitory epistaxis, which has frequently been of some profuseness. He has no cough and no expectoration. His appetite is good, although he has some epigastric distress and distention after eating. These, when excessive, sometimes induce an attack of cardiac palpitation. He has no nausea and no vomiting, and his bowels are regular. He has no genito-urinary symptoms, never had any venereal disease, and never used alcohol in any form whatever. He uses tobacco to a slight extent. About the beginning of May, 1896, he was suddenly seized with an attack which proved to be the most severe he had ever had. He was affected with great palpitation of the heart, accompanied by dyspnea and cough. He was exceedingly weak and much prostrated, and had a great fear of impending death, not associated with any actual pain about the heart, but rather with precordial distress. Repeated examinations of the lungs, abdominal organs, and urine gave always negative results. The apex-beat was faintly palpable in the fifth interspace, three-quarters of an inch within the left mid-clavicular line. The cardiac dulness reached superiorly to the top of the left fourth rib at its junction with the sternum, and inferiorly extended from the left edge of the sternum to the region of the apex-beat. The heart-beats ranged in number between two hundred and ten and two hundred and twenty per minute uninterruptedly for almost three weeks, and then gradually subsided to a hundred and fifty, and in the course of several days suddenly fell to seventy. During the following month the heart-beat varied exceedingly. It would suddenly mount from seventy per minute to a hundred and seventy, and as suddenly fall to seventy again. It would bound to two hundred or more and remain so for a few moments or an hour or more, and suddenly fall again to about seventy. No murmurs were audible. During the times of these excessive beatings it was almost impossible to count the pulse in the peripheral arteries; at all events no reliance could be placed upon the accuracy of the supposed results of such attempts. As the patient began to improve, gain strength, and become able to leave his bed, his heart-beat fell to sixty per minute, then to fifty-six, at about which rate it continued for a

couple of days. Then suddenly one day while under observation it bounded to a hundred and seventy-six, to fall again shortly to seventy. Subsequently the man began again to improve and continued to do so, having occasionally attacks of slight degree and of not much more than momentary duration. While rather weak he was gaining strength. His pulse, however, continued somewhat arthythenic, his heart-sounds were not clear, and his heart beats between sixty and seventy times per minute. On September 19th, following some excessive exertion, he was suddenly attacked with another paroxysm which was attended with vomiting. The heart-beat was two hundred and ten per minute. Digitalis and bromids were given, and on the following day the man was very much improved, his pulse being forty-four per minute. There is no inequality of his pupils, both of which react well to light and in accommodation. There is no prominence of the eyeballs and no enlargement of the palpebral fissures. There is a marked tremor of the hands and fingers when they are extended. The thyroid gland is not enlarged. There is no hemorrhagic tendency, other than the epistaxis noted. Dermographism is readily demonstrated, but the markings do not persist long. Factitious urticaria could not be developed.

CASE 3.—K. K., a white married woman, aged twenty-six years; was a native of Scotland, and a housewife by occupation. Her father had died of some cause not ascertainable, her mother of carcinoma of the pancreas.* Three brothers and seven sisters are living and well. She has had three children, all of whom are living and well. She has never been ill except when complaining of her heart. She does not recollect that it troubled her when she was attending school, but is certain that it did shortly after her withdrawal from school, when about fourteen years of age. Since then she has had attacks of palpitation of the heart, with or without dyspnea, slight vertigo, flushing of the head and neck, subjective and objective sensations of heat and sweating of the same regions. These attacks occurred irregularly about twice a month or thereabouts, and were usually sequential to some undue exertion or excitement. They would last about five or ten minutes, after which the patient would again be as well as ever. During her last pregnancy, which terminated in a normal labor May 16, 1896, she was subject to attacks of ordinary severity and duration. One week, and again two days prior to the birth of her child, she had attacks of much more than average severity and duration, both of which were attended with great weakness, persisting for some time after the cardiac palpitation had ceased. Twelve hours after her delivery she was suddenly, without apparent cause, seized with great palpitation of the heart, accompanied by the other symptom already detailed and especially marked by great prostration. This attack continued for fifteen hours, and during its continuance the heart beat uninterruptedly between a hundred and eighty and two hundred and ten times per minute. It then suddenly fell to eighty, but the prostration continued for a day or more. There has since been no recurrence of the tachycardia. Physical examination of the lungs, heart, and abdominal viscera is negative, and the urine is normal. The thyroid gland is not enlarged, and there are no mottlings of the skin, no hemorrhagic tendency, no tremor. The patient has had no tinnitis aurium, and no dimness of vision. The pupils are equal, not dilated, and react well to light and to accommodation. Dermographism is easily demonstrated, but the markings fade after a few moments.

CASE 4.—L. C., an unmarried woman, aged twenty-two years; is a native of the United States. Her father was killed in the coal mines; her mother died at the age of fifty-seven years, of debility and gastric atony. Two sisters died in infancy of causes not ascertainable; one, aged seventeen years, of typhoid fever; one, aged twenty-two years, of pneumonia; and another, aged twenty-eight years, of rheumatism, with valvular disease of the heart. The patient had always enjoyed good health until three years ago, when her sister died of typhoid fever. Two weeks after this event the patient, in apparently good health, though greatly worried, was suddenly seized while in bed with

* *University Medical Magazine*, November, 1895.

great palpitation of the heart and marked dyspnea. These continued for three or four days, the heart beating one hundred and thirty-five times per minute. The patient then apparently recovered, and in two weeks was as well as usual. She then had another attack, accompanied by a chill, but she recovered in twenty-four hours. During the following six months she was usually very well during the day, but almost nightly she would have an attack of tachycardia, which, coming on about twelve or one o'clock, would continue frequently until daybreak. The attacks gradually decreased in severity and frequency until at the end of about six months the patient was able to do light housework. She remained free from severe spells for two years, when she had another, which, however, did not continue long. The patient states that her first severe attack occurred during the menstrual period, and even now the recurrence of this period is very prone to be attended with some palpitation of the heart. She began to menstruate when fifteen years of age (two years prior to the first paroxysm of tachycardia). Menstruation is and has been usually regular and painful. She always sleeps with her head high for the purpose of hindering the development of attacks of tachycardia. She is careful to guard against "cold," which brings on a mild attack. She is, in consequence, worse during winter. She never had rheumatism, but is occasionally "dyspeptic." Physical examination of heart and lungs reveals no deviation from the normal. Her urine is normal. She is nervous, annoyed by trifles, and asserts that her greatest enemy is "worry." She has no enlargement of the thyroid gland, and no exophthalmos. She says she has no flushings unless the attack be very severe, when she is also greatly prostrated. Any exhausting work brings on an attack.

The cases herein reported present, upon critical examination, certain very interesting features. While symptomatically they possess many points in common, each case manifests certain individual peculiarities. Two of the patients were males and two females. Their ages at present range from twenty-two to sixty years (1, 60; 2, 50; 3, 26; 4, 22). At the time of onset of the affection their ages varied between fourteen and fifty years (1, 50; 2, 43; 3, 14; 4, 19;) and the affection has lasted in the individual cases from three to twelve years (1, 10; 2, 7; 3, 12; 4, 3).

The essential feature of each case is the paroxysmally recurring attacks of extraordinary rapidity of the heart's action, without adequate obvious cause, predisposing or exciting. Certain of the paroxysms, however, are preceded by various manifestations which, while in many instances obvious, can hardly be looked upon as adequate to call forth the attack in the particular individual. In cases 1 and 2 there is a more or less intimate relationship between the spells of vertigo and the attacks of tachycardia. The two manifestations may occur simultaneously or independently of each other, and either may precede the other in time of development. The vertiginous spells are sometimes engendered in both patients by physical activity, such as lowering of the head. Again they develop without manifest excitation, occasionally preceding in time of development the attack of tachycardia. They might possibly be looked upon as causal of the latter, but they may not inappropriately be considered part of the symptom-complex of the tachycardia paroxysm. It is quite probable that any sudden effort or change from ordinary conditions suffices to occasion the vertigo, and it is after this manner that the excessively rapid heart-action operates.

In cases 1 and 3 it is impossible to assign any cause for the development of the affection. In case 1 the disorder is said to have manifested itself subsequent to a fall, but it is extremely improbable that any real association exists between the disease and the accident. The disorder in case 2 is said to have come on directly after an attack of influenza. There are no sound reasons for denying that the influenza had a positive influence in the development of the disorder in this case. In this respect the case resembles those lately referred to by Sansom,[1] who, in a study of one hundred cardiac cases due to influenza, found thirty-seven cases of tachycardia, twenty-five of arthythenia, twenty-three of pain, five of bradycardia, and ten of organic disease of the heart.

In neither case can alcohol or tobacco or other toxic agent be held answerable for the disease. The patient of case 1 overindulges habitually in alcohol, and uses tobacco to great excess. The patient of case 2 has been a total abstainer from alcohol for at least the past twenty-five years, and smokes but little. The patient of case 1 has made repeated experiments to determine whether or not alcohol had any influence on the severity or frequency of his attacks of tachycardia. He found that he had on an average as many paroxysms when not drinking as when drinking; nor could he establish any causal relationship between indulgence in alcohol and the individual attacks. A severe attack might or might not follow excessive potations, and if an attack developed during a temporary interval of abstinence, repeated experiences showed that neither its duration nor its severity was with certainty influenced one way or the other by immediate indulgence.

The precise time of the development of the disorder in case 3 could not be ascertained, nor could any cause be discovered. The severe attack came on twelve hours after parturition, to which we can hardly assign any causative influence. The two occurrences were separated by a considerable interval of time (twelve hours), and the woman had previously been twice confined without the development of any such cardiac symptoms, although they were present at other times. Cases similar to this have been reported by Stocker,[2] Gerhardt,[3] and others. In none of these three cases is it possible to discover any reflex cause capable of inducing the paroxysms.

Case 4 we are disposed to view as one on the border-line between essential paroxysmal tachycardia and reflex tachycardia. The first attack came on during menstruation, and each menstrual period is still likely to be attended with some increased frequency of heart-beat. At some menstrual periods severe paroxysms of tachycardia occur, and many spells develop at other times from unknown causes. While in many respects this case appears to be one of tachycardiac reflex from the female genitalia, it is more proper to view it as one of those instances of tachycardia, many analogous examples of which we have in other disorders, particularly of the nervous system, in which an affection takes its origin in a definite cause and persists whether or not the inducing cause remains operative. Finally, we must refer to the frequency with which, in all the cases, attacks are precipitated by excessive exertion.

In contradistinction from what might *a priori* be anticipated, these spells of abnormal frequency of the heart-beat are unaccompanied by marked dyspnea or cardiac pain or distress. On the other hand, when the attacks are severe there are manifest signs of general bodily disturbance, as evidenced by excessive weakness, which is entirely independent of any possible engendered prostration physically from fear of impending bodily calamity. This is seldom or never present.

Attention has been directed to the suddenness of the onset of the individual paroxysms, and to the almost equal suddenness with which many of them terminate. Again, other attacks decline much more gradually. During some of the spells the heart-beat is subject to marked variations in frequency, and these develop and cease as rapidly as do the attacks themselves. The paroxysms are of varying duration,—from a moment to three weeks or more.

Particular attention is to be directed to the fact that in none of the cases was it possible to discover any cardiac lesion whatever. In cases 1 and 2, in which the area of cardiac dulness was determined during paroxysms, this was found normal, as it was also between the attacks. It was also normal between the paroxysms in the other cases, in which no notes were made of any exact observations upon this point during a seizure.

Finally, we must refer to the very manifest evidences of general vaso-motor disturbance in all the cases. These were particularly marked in cases 1 and 2. They consisted for the most part in subjective and objective sensation of heat, confined especially to the head, face, and neck and accompanied by profuse perspiration, limited to the left side in case 2 and said to be general in cases 1 and 3. There are very evident symptoms of vaso-motor paralysis. As further indicating the vaso-motor instability, we

refer to the ease with which dermographism was demonstrable in cases 2 and 3; to the marked susceptibility to the influence of cold in case 4; and to the occurrence of epistaxis premonitory to the tachycardiac paroxysms in case 2. None of the other cases exhibited any hemorrhagic tendency. Even after centrifugation, no erythrocytes were discernible in the urine of any of the patients. These vaso-motor disturbances are asserted to have been absent in some of the reported cases, but in the majority of instances but little attention has apparently been directed to them. Rather extended reference to the subject has been made in a communication of Zuncker[4].

Interesting as is the symptom-complex of this affection clinically, by far the most interesting feature in connection with it is that concerning its pathogenesis. An important advancement was made in the study of the subject when Fraentzel[5] and Bouveret[6] drew attention to the necessity of distinguishing between tachyacrdia as a symptom and tachycardia as a disease. As, however, the term tachycardia is still indiscriminately employed to designate diverse morbid conditions, it is primarily essential to define that to which we apply it. Tachycardia (more properly polycardia), meaning rapid action of the heart, in practical application should be employed to designate such a condition. It is at once evident that all instances of rapid action of the heart are not of the same nature nor due to the same cause. The term tachycardia therefore requires some qualification to indicate its nature in particular instances. Rapid action of the heart may be a permanent or a transitory affection. If the latter, it may, or may not, occur in paroxysms, and if the former, the permanent tachycardia may be augmented by the occurrence of acute exacerbation of greater frequency of heart-beat than is usually present. Of permanent tachycardia, numerous instances have been recorded. The cases that after death have been subjected to careful pathologic study have usually disclosed some lesion of the cardiac centres in the medulla, or of the vagus trunks or neighboring structures.

Tachycardia, which is but transitory, may occur in paroxysms or it may not. Under either condition it may be symptomatic of various diseased conditions of the different organs. When, however, it occurs in paroxysms of unknown genesis it is distinguished as essential paroxysmal tachycardia.

Symptomatic or reflex tachycardia may be due to a variety of causes, viz.: 1, anemia; 2, fever; 3, acute infectious diseases (diphtheria, scarlet fever, typhoid fever, influenza, etc.); 4, chronic infectious diseases (syphilis, tuberculosis, malaria, etc.); 5, organic diseases of the heart (of the endocardium, pericardium, or myocardium); 6, various emotional disturbances (shock, fright, etc.); 7, intoxications (tea, coffee, tobacco, alcohol, etc.); 8, nephritis, especially at a late stage of the cirrhotic form; 9, rheumatoid arthritis; 10, exophthalmic goitre; 11, chorea; 12, epilepsy; 13, hysteria; 14, neurasthenia; 15, masturbation and excessive sexual indulgence; 16, organic disease of the nervous system, brain, spinal cord, or nerves; 17, various reflex influences emanating from the brain, heart, stomach, liver, intestines, lungs, uterus, ovaries, gall-bladder, kidneys, prostate gland, urinary bladder, anus, trachial plexus, aspiration of ascilic effusion; 18, convalescence from any protracted disease. In view of the multiplicity of affections just cited, and which could be added to the unwisdom of attempting a discussion of the pathogenesis of tachycardia is evident. The pathogenesis of such tachycardias is practically the pathogenesis of disease in general. When we attempt to classify such tachycardias we meet with new difficulties. Is the tachycardia of scarlet fever due to the fever, to the general infection, to the circulation in the blood of some toxin exerting a deleterious influence on the medulla, the pneumogastric or sympathetic nerves, the intracardiac ganglia, or the heart-muscle? Is the tachycardia of typhoid fever due to the fever, to the general infection, to the anemia, to the heart-weakness, or to what? Many of the tachycardias enumerated are justly regarded as natural concomitants of the affections they attend, and others are so manifestly reflex that they cease with the non-operation of the inducing cause —*cessante causa, cessat effectus.* These

tachycardias are common, as attested by the daily experience of most practitioners. Within the past three months I have, in private practice, observed two cases in which the heart-beat was respectively 135 and 146 per minute, in both instances during alcoholic debauches. It is interesting in this connection to note that Déjérine[7] has demonstrated in some of these alcoholic tachycardias, degeneration of some of the fibers of the vagus. At the Medical Dispensary of the University Hospital, I saw lately a patient with paroxysmal attacks in which the heart-beat ran up to 135 per minute as a reflex consequent upon catarrhal gastritis. I have lately reported another case in the Philadelphia Polyclinic.[8] The patient had aortic insufficiency and became the subject of apoplectiform bulbar paralysis, subsequent to which his attacks of rapid heart-beat were much more frequent than previously.

Accompanying all of the conditions already enumerated, tachycardia can be referred to some diseased condition of the body in general or of one or more of its organs. It is therefore symptomatic or reflex, and ceases as soon as the influences upon which it depends have been removed. Quite different and distinct are those cases designated essential paroxysmal tachycardia, which are so called because neither clinically nor pathologically can any cause be discovered to account for the development of the affection.

In studying deviations of the heart-beat from the normal it is well to commence with a consideration of the fundamental principles of the cardiac mechanism. The strength, rhythm, and frequency of the heart-beats are dependent upon the accebrating influence of the sympathetic nerves, the inhibiting influence of the vagus, and the regulating influence of the intracardiac ganglia. To these influences must be added that dependent upon the state of the nutrition of the heart, and that which the vaso-motor nerves exert by their influence upon the contractility and distensibility of the blood-vessels. In addition, experiments have of late tended to show that the heart-muscle itself possesses the inherent property of automatically contracting independently of any nervous influence, and that the rhythm of the normal cardiac action is dependent upon the functional activity of the intracardiac ganglia (Landois.[9])

It is not probable that any disturbance of the intracardiac ganglia could induce the paroxysms; nor is it probable that they are even secondarily involved to any marked degree. As remarked, they preside essentially over the rhythm of the cardiac contractions, and in the vast majority of the seizures in essential paroxysmal tachycardia the heart-beat and the pulse are regular (Huber.)[10]

The heart-muscle itself cannot be much altered. A few cases have come to necropsy, notably those reported by Riegel,[11] Finney,[12] Bristowe,[13] Fraentzel,[5] Brieger,[14] Sollier,[15] West,[16] Hochhaus,[17] and others. In the majority of the cases, post-mortem examination of the heart either yielded negative results or revealed but slight deviations from the normal. In none was there discovered any characteristic lesion or any lesion that with any reason could be held accountable for the production of the disorder. In several instances there existed some degree of interstitial myocarditis, which fact led West[16] to formulate the opinion that paroxysmal tachycardia is "not due to functional disturbance alone, but to an organic lesion, and that that lesion is in all probability in the muscular substance" of the heart. This view has found but few supporters, among them Brannan,[18] and is manifestly untenable. The interstitial myocarditis is much more likely an accidental concomitant. If it bore a causal relationship to the tachycardia we should find the latter of very frequent occurrence. It is also well known that even extensive degrees of interstitial myocarditis frequently exist without occasioning any symptoms whatever. Irregularity and frequency of the heart-beat and the pulse are usually the more prominent symptom when any are present, and the former is much more likely to be encountered and is always the more marked. Further, it is not at all improbable that the persistence and frequent repetition of the tachycardiac paroxysm may be the cause and not the result of the interstitial myocarditis.

There remain then to be considered paresis of the vagus and stimulation of

the sympathetic. It has been demonstrated that paralysis of the sympathetic has no influence whatever over the cardiac mechanism (Nicati),[19] whereas stimulation of the cervical sympathetic gives rise to increased frequency of the heart-beat. In the cases herein reported, excepting the increased frequency of the heart-beat (referable to other causes) there is no evidence whatever of sympathetic irritation. All of the cases manifest signs of vaso-motor disturbance, and all of these signs are paretic in nature. We therefore conclude of necessity and by excluding other possibilities, that the seizures of essential paroxysmal tachycardia are due to some transitory disturbance of the functional activity of the vagus—most probably the centre in the medulla. The disorder is a most extraordinary one. Concerning its manner of development we can but theorize. There are doubtless many instances in which the heart-beat does not become so excessively frequent, remaining about 120 or 130 per minute, and which may be due to sympathetic irritation. Such, for instance, is a plausible explanation of the phenomena of case 4. There occur in all likelihood, other cases in which the symptoms are due to both paresis of the vagus and stimulation of the sympathetic, as originally suggested by Gerhardt, who is of the opinion that the majority of all cases of tachycardia are due to paresis of the vagus, those with excessive pulse-frequency to paresis of the vagus and stimulation of the sympathetic. and minor forms with a less frequent pulse-rate to stimulation of the sympathetic alone.

The unreliability of using as a criterion the rate of the heart-beat in endeavoring to distinguish between the various causes or natures of the tachycardiac paroxysm led Nothnagel[20] to formulate the following two rules: (1) If during the tachycardiac paroxysm, the pulse-rate is very high, the rhythm maintained and the heart-impulse weak; if there are present no other symptoms, except such as may be regarded as secondary to incomplete emptying of the heart; and if finally there be present a paresis of other nerve-tracts running in the vagus, in the particular case, we may assume a paresis of the vagus. (2) If during the tachycardiac paroxysm, the heart-impulse is strong; if the peripheral arteries are well filled and firm (not absolutely essential); and if there be present other manifestations of vaso-motor irritation, the supposition of an excitation of the accelerator nerves is justified. Although these rules are in accord with the facts regarding the apex-beat in cases 1 and 2, that they are hardly generally applicable is evident, from the fact that in many of the reported cases supposed to be due to paresis of the vagus, the cardiac impulse was strong. There exists, in many cases, a remarkable difference between the apparent strength of the apex-beat, and the small, weak, scarcely perceptible pulse.

Again Fraentzel has proposed the dictum that a paroxysm relieved by an injection of morphin may be considered to be due to sympathetic irritation, while one relieved by digitalis depends upon paresis of the vagus. But neither of these rules can be relied upon. Single paroxysms in the same case may at one time or another be relieved by either of these medicaments, and again at times neither will prove of any service. The affection manifests itself in paroxysms, many of which develop and cease absolutely, unaffected by any therapeutic measure.

Martius[21] in a recent monograph on the subject, holds that the attacks of essential paroxysmal tachycardia are due neither to stimulation of the sympathetic, nor paresis of the vagus nor both, but that the essential nature of the affection consists in an enormous acutely-occurring dilatation of the heart. According to him there occurs first a lessening in the tone of the cardiac muscle, resulting in great dilatation. At the same time the physiologic property of the heart to produce maximal contractions is lost. There ensue therefore partial contraction and incomplete emptying of the ventricle at each systole. Of necessity there must result slowing of the circulation and dyspnea, unless the weakness of the contraction is compensated for by their increased frequency. The tachycardia is therefore of the nature of a life-preserving compensation. Hochhaus concurs in the same opinion.

The majority of authors, however, with Bouveret, Huppert,[23] Winternitz,[23] and Sansom view the dilatation of the heart as a purely secondary and not necessary manifestation of the paroxysms. Sansom, in reporting forty-six cases, asserts that, in the majority, the heart-dulness was normal. "In three cases only were there signs of dilatation, and the probabilities seemed strong that such dilatation was the consequence of the perturbation, and due to no other cause." That a dilatation of the heart is not a necessary concomitant of the paroxysm is further very evident from a recent communication of Loeser.[24] In confirmation of this view I may mention cases 1 and 2 of my own, which were studied with particular reference to this sign, and in which dilatation of the heart was never observed, although looked for during paroxysms. Dilatation of the heart may or may not occur during a paroxysm. In a particular individual it may be present during one attack, and absent during another. There are many reported cases in which the affection persisted for years, and in which no dilatation ensued, although it did develop in other cases. The facts therefore do not warrant the deductions of Martius, and dilatation of the heart cannot be considered a pathognomonic sign of the paroxysms. Wood[25] likens the tachycardiac paroxysm to an epileptic seizure, ascribing its development to a discharge of nerve-force and not to any temporary paresis of the vagus. This view, however, has not found general adoption.

We come, therefore, to regard the vast majority of the paroxysms as due to a transitory paresis of the vagus, a view warmly supported by Rosenbach,[26] and many others; and we believe, further, that the locus of the disturbance is in the medulla. We have arrived at this conclusion by exclusion, but there are, in addition, many positive facts that corroborate this view. In many carefully reported and trustworthy observations, evidence has been adduced to show that the central tone of the vagus, the removal or loss of which occasions the paroxysms, may be compensated for in many ways, and the attack brought to an immediate end. It has been repeatedly demonstrated that, in some cases at least, it is possible, by means of mechanical irritation on the vagus in the neck, as by pressure, to bring the paroxysm to a sudden termination, or to at least reduce very materially the excessive frequency of heart-beat. The same result has been achieved by applying an electric current to the vagus in the neck, or even by the simple procedure of swallowing a glass of cold water or a cupful of hot coffee. All of these facts serve to indicate that the peripheral termination of the vagus are intact, or at least capable of responding to stimuli. The disorder is, therefore, due to a disturbance of the functional activity of the cardiac centers in the medulla, whereby the normal influence exerted by physiologically-active pneumogastric nerves upon the heart is no longer operative. We look upon the associated symptoms in the cases herein reported—those indicative of vaso-motor paresis, as additional support of this vagus theory. The nuclei in the medulla presiding over the vaso-motor activities, are in close juxtaposition to those governing the cardiac mechanism, and as they are intimately associated anatomically, so also are they closely related functionally. It is, therefore, but fair to assume that any influence which seriously disturbs one might exert considerable influence also over the other.

The affection is a neurosis of the vagus. But what do we understand by such a neurosis? How does it operate? What is the *modus operandi* of the development of such sudden changes from a normal pulse-rate to 200 or more per minute, and of equally sudden changes from 200 to 70? It is in this connection that I venture to propose as explanatory of the phenomena of this disorder an adaptation of a theory lately advanced by Dercum,[27] Robl-Rückhard, Lépine, and Duval. It is that which contends that the neuron is not an absolutely fixed morphologic element. This theory receives considerable support from certain demonstrated facts. Wiedersheim (quoted by Dercum) observed the nerve-cells in the œsophageal ganglia of living animals of very low order to be capable of movement, which he describes as slow and flowing. A single observation of this nature is of utmost importance, and serves to counteract theorizing to the

contrary. In the words of Dercum, "I do contend that it is in the highest degree probable that such facts as we have, scanty though they be, are in favor of the view that a certain amount of movement does take place in the terminal portions of their processes [of the neuron], their dendrites and their neuraxons, although this movement is probably small in extent."

We now know, thanks to the investigations of Golgi, Ramony Cajal, Leuhossek, Van Gehuchten and others, that the nervous system is made up of a number of distinct neurologic entities,—the neurons. These are as distinct and individual as other cells throughout the body. Their processes—dendrites, neuraxons and collaterals—do not fuse and anastomose, as formerly believed, but they are sharply defined and limited. They bear no relation to similar processes of other cells save that of proximity or possibly contact by means of their arborescent filamentous terminations. It is at least these filamentous terminations that we believe capable of motion. They possess the properties of extension and retraction. Properly extended these filamentous terminations of one neuron stand in normal relation to the filamentous terminations of other neurons with which they are in physiologic accord. The functions of the body are thus maintained under the influence of the nervous system and are properly executed. When, however, these terminals of neurons for any reason retract, other neurons, which under normal circumstances receive from the first-mentioned class impulses necessary for the proper execution of their functions, lack these essentials, and are no longer capable of normal physiologic action. Transmission of impulses cannot take place unless the terminals are in a certain degree of proximity. More widely separated, interchange of action ceases. This is the theory adduced by Dercum to explain many of the phenomena of hysteria, hypnotism, sleep, etc.; and it is this same theory that I believe most fitly explains the phenomena of essential paroxysmal tachycardia. The loss of tone or control of the vagus is thus accounted for, and particularly the suddenness with which it is lost, and the suddenness with which it is regained. This excessive motility of the terminal filaments may be induced by many causes, as for instance sudden excessive demands beyond the functional capacity of the cell, or sudden disturbance of normally-existing conditions, such as may be engendered by excessive exertion or sudden stooping, as in our patients; or again defective nutrition or fatigue, which lessens the functional activity of the neuron, and thus perhaps as a life-preserving measure they retract their terminals. The instant they reach that degree of separation through which impulses cannot be transmitted from one to the other their influence suddenly ceases. Subsequently, when nutrition has restored the cell to its normal status, protrusion of the processes takes place, functional activity and the normal relationship of physiologically-allied neurons is once more established, normal condition exist, and the tachycardiac paroxysm suddenly ceases. Temporary reduction in the rate of heart-beat during paroxysms are abortive attempts of physiologically incapable cells to again assume their functions. Nutrition has not yet restored them to that condition necessary for physiologic activity, and they fail in their endeavors until fully replenished. There are admittedly many loopholes in this theory, but it appears to me attractive, and certainly as plausible as any and much more so than many, that have heretofore been advanced to explain the highly interesting phenomena of that curious disorder, essential paroxysmal tachycardia. Perhaps some day our means of investigation will permit of a demonstration of changes, concerning which we can now only speculate.

The diagnosis of the affection is under ordinary circumstances attended with but little difficulty. We primarily exclude all cases of permanent tachycardia, and then those cases which arise reflexly from disturbance or disease of any of the bodily organs. In this connection we remember that many cases arise from reflex causes of very obscure nature. But the symptom-complex of the disorder is so characteristic, that with a knowledge of the existence or possible presence of the affection, coupled with the otherwise negative result of an examination of the patient, one could hardly

mistake it for anything else. We will further be careful not to confound the cases under consideration with those of acute and chronic angio-spastic dilatation of the heart to which Jacob[28] has lately directed attention. This is a disorder in which a general angiospasm, accompanied by chill, leads to excessively frequent heart-beat and subsequent dilatation of the heart. In essential paroxysmal tachycardia there are no symptoms of angiospasm. The diagnostic features of the affection, however, have already been sufficiently discussed. We must not neglect to bear in mind that well-described symptom-complex, to which Cohen has given the name vaso-motor ataxia, one of the features of which may be tachycardia.

The prognosis of the affection refers to the possibility of a cure being effected and to the danger attending the individual paroxysms. The obscure nature of many of the causes engendering attacks of tachycardia bestows an added impulse to the search for such cause in the hope that the disorder may be reflex, under which circumstances it will cease with the removal of the inducing cause. The prognosis of essential paroxysmal tachycardia is guardedly unfavorable as to cure. Some cases are subject to spontaneous cure; others endure for a long number of years, occasioning the patient but slight discomfort; while in some instances death has occurred during a paroxysm. We cannot presage the duration of either a paroxysm or the disease.

The treatment of the disorder is best comprised in the term symptomatic. In some instances, the measures that we employ symptomatically to alleviate the paroxysm have been followed by a permanent cessation of the disorder. It is well to remember that paroxysms have been controlled by pressure on the vagus in the neck, by electric stimulation of the vagus in the neck, by pressure over an ovary, by the drinking of cold water or of hot coffee, by deep inspiration and retention of the air. Of great value further is the application of an ice-bag to the chest and the swallowing of small bits of cracked ice; or a cold douche may be applied to the chest, abdomen or neck. Attacks of long duration are frequently favorably influenced by hypodermic injection of morphin. It is, however, worse than folly to resort to such a measure for the relief of attacks which, in all probability, will cease spontaneously in a few moments. Digitalis is at times resorted to, and its use is thought to be followed by satisfactory results. Various nervines, such as valerian, asafetida and zinc, have been recommended, but they are of doubtful utility. The methodical use of galvanization of the vagus in the neck has its supporters. Much more permanent effects, however, may be anticipated from strict attention to hygienic measures, the avoidance of excessive exertion, good diet and particular regard for the general nutrition and welfare of the body.

We have thus referred to an affection whose very name implies ignorance of its real nature, whose clinical manifestations are most interesting and for the explanation of whose phenomena we have suggested an adaptation of a lately-advanced and alluring theory.

The cases reported were observed in the private practice of my father, Dr. Joseph V. Kelly, to whom I am indebted for the opportunities of seeing the patients, for some of the notes and for many kind suggestions.

REFERENCES:

1. Sansom: The Irregular Heart after Influenza; British Medical Journal, Vol. II, 1894, p. 1042. The Rapid Heart; Lancet, Vol. I, 1890, p. 1001.

2. Stocker: Tachycardie in Folge Geburt; Correspond. f. Schweizer Aertze, 1889, p. 700.

3. Gerhardt: Ueber einige Angioneurosen; Volkman's Sammlung Klin. Vorträge, Innere Med., No. 70.

4. Zuncker: Klinischer Beitrag zu den Neurosen des Herzens; Berl. Klin. Wochenschrift, 1877, S. 697, 718.

5. Fraentzel: Ein Fall von paroxysmaler Tachycardie; Charité-Annalen, 1889, S. 357. Ueber Tachycardie; Deutsch. med. Wochenschrift, 1891, S. 321.

6. Bouveret: De la tachycardie essentielle paroxystique; Revue de méd., ix, 1889, p. 753.

7. Déjérine: Contribution à l'etude de la névrite alcoolique; Arch. de Physiolog., 1887, p. 248.

8. Kelly: Apoplectiform Bulbar Paralysis; Philadelphia Polyclinic, Vol. v, No. 35, Aug. 29, 1896.

9. Landois: Physiologie des Menschen; 8 Aufl., 1893, S. 104, 749, 808, 811, 812.

10. Huber: Sphygmographische Beobachtungen; Deutsche Archiv. f. Klin. Med., Bd. 47, 1891, S. 13.

11. Riegel: Ueber Vaguslähmung; Berliner Klin. Wochenschrift, 1875, S. 425.
12. Finney: Intrathoracic Tumor Simulating Aneurism; Dublin Journal of Medical Science, 1877, p. 328.
13. Bristowe: On Recurrent Palpitation; Brain, Vol. x, 1887, p. 164.
14. Brieger: Beitrag zur Lehre von der anfallsweise auftretenden Tachycardie; Charité-Annalen, 1888, S. 193.
15. Sollier: Tachycardie essentielle paroxystique; La France méd., 1889, p. 1710.
16. West: Paroxysmal Hurry of the Heart; Lancet, Vol. i, p. 641.
17. Hochhaus: Beiträge zur Pathologie des Herzens; Deutsches Archiv. f. Klin. Med., Bd. 51, 1892.
18. Brannan: Essential Paroxysmal Tachycardia; Medical Record, Vol. 40, p. 701, 1891.
19. Nicati: La paralysie du nerf sympathetique cervical; Diss., Zurich, 1873.
20. Nothnagel: Ueber paroxysmale Tachycardie; Wiener med. Blätter, 1887, Nos. 1, 2, 3.
21. Martius: Tachycardie; Stuttgart, 1895.
22. Huppert: Reine Motilitätsneurosen des Herzens; Berliner med. Wochenschrift, 1874, S. 223.
23. Winternitz: Ein Beitrag zu den Motilitätsneurosen des Herzens; Berliner Klin. Wochenschrift, 1883, Nos. 7, 8.
24. Loeser: Ueber paroxysmale Tachycardie; Virchow's Archiv. f. path. Anat., Bd. 143, S. 648, 1896.
25. Wood: Cardiac Nerve-Storms; University Medical Magazine, Vol. iii, p. 267, 1891.
26. Rosenbach: Krankheiten des Herzens; 1894, S. 463.
27. Dercum: The Functions of the Neuron; Amer. Jour. of the Med. Sciences, 1896, p. 151.
28. Jacob; Akute und chronische angiospastische Herzerweiterung; Centralblatt für innere Medicin, 1895, S. 121. Angiospasm; Zeitschrift für Klin. Med., Bd. 38, Hft. 3 u. 4.
29. Cohen: Vaso-Motor Ataxia; Amer. Jour. of Med. Sciences, February, 1894.

For numerous other references, consult Martius (21), Loeser (24) and Larcena: Des Tachycardies; Thèse, Paris, 1891.

THE PROPER POSITION OF CELIOHYSTEROPEXY IN GYNECOLOGY.*

FRANK W. TALLEY, M.D.,† PHILADELPHIA.

There is, perhaps, no question in the field of gynecology upon which more diametrically opposite views have been expressed than that of celiohysteropexy. This operation has been extolled by some, condemned by others, and accepted with modifications by a few. Some definite place in gynecologic surgery it must occupy, and it is to define this position that I would ask the opinions of the members of the society.

An observation that, when the pedicle of an ovarian cyst had been fixed in the abdominal wound, it was common to find that a previous retroflexion would disappear, caused Kœberlé, in 1869, to remove a healthy ovary in a case of retroflexion and stitch the pedicle in the lower part of the abdominal wound. For the introduction of this idea into America we are indebted to Howard Kelly, who reported his first case at a meeting of the Philadelphia Obstetrical Society, November 4, 1886. Kelly sutured the left cornu of the uterus to the left of the median line of the abdomen, after having removed the left appendage, and recommended that in performing such operations, both cornua be sutured to the abdominal wall. This operation for the cure of obstinate retrodisplacement he considered to be established, although the indications for its performance would be, he claimed, rarely met. The operation has since that time suffered frequent modifications in its technic, and from a procedure rarely indicated had, until within a short time, become one of frequent performance.

Recently, much adverse criticism has been advanced. The principal arguments urged against the procedure have been:

1. That it is often followed by dragging pains which are so severe as to require subsequent celiotomy for the separation of the uterus from the abdominal parietes.

2. That it renders the woman liable to abort in the early months of pregnancy.

3. That subsequent labor is likely to

*Read before the Philadelphia County Medical Society, October 14, 1896.

†Adjunct Professor of Gynecology in the Philadelphia Polyclinic; Consulting Obstetrician to the Southeastern Dispensary; Obstetrician to the Frederick Douglass Memorial Hospital.

be complicated, rendering forceps, turning, the induction of premature labor, etc, necessary resorts, and in some cases in which pregnancy had progressed to term, Cesarean section became necessary to effect delivery.

The dragging pains following celiohysteropexy, in some cases, may be explained by supposing that the uterus has been drawn, in the operation, too high up in the pelvis. If we consider, with Dr. Emmet, that the uterus, through its natural supports, occupies a certain plane in the pelvis, and that when prolapsed below this normal plane symptoms will arise from traction and tension upon the ligaments, we may realize that, also, if drawn above this zone the same traction applies, though in an opposite direction. In adapting the fixation, therefore, the distance above the pubic symphysis to which the fundus of the uterus will reach with ease must be determined, and should the operator make his attachment higher up the painful symptoms will occur, which are nearly as distressing as those before operation.

That celiohysteropexy predisposes to abortion is an objection aimed at the method employed and not at the operation. If the uterus be fixed to the abdominal wall, either by unyielding buried sutures or by a broad firm adhesion, it will not uniformly enlarge as the developing ovum demands. It is probable that the uterine contents may then be expelled. That this does not occur, however, in many cases is evident. Should it be possible to suspend the uterus in its normal position without firm fixation, providing for it a considerable latitude of mobility, such a danger would be minimized. Even should abortion result in a large number of subsequent pregnancies, the operation itself presupposes a previous retrodisplacement, in which state pregnancy probably would either not take place or be shortly followed by abortion. Thus, a large percentage of abortions after operation would be offset by the small percentage of births in women who otherwise would never have become mothers.

That labor is likely to be complicated and that Cesarean section should have been a necessary resort in a few cases after this operation, is again a fault of the method employed. Should it be possible to afford the uterus a light support which would permit a considerable latitude of movement, and which would either stretch or rupture during the enlargement of the pregnant womb, surely no serious result could be anticipated. When, however, the fundus of the uterus is broadly adherent to the abdominal parietes, either by fibrous connective tissue or by an unyielding buried suture, the enlargement of the uterine cavity takes place by the stretching of the posterior uterine wall, while the fundus being unable to rise in the abdomen, the hypertrophy of the anterior wall will rotate the cervix backward and upward as far as the utero-sacral ligaments and the posterior vaginal wall will permit, and then interpose itself as a thick muscular barrier between the fetus and the birth-canal. By carefully selecting a method of suspension by which firm fixation is avoided, these objections are overcome.

The operation that has afforded me the best results in child-bearing women consists in a small median incision under strict aseptic precautions, the separation of the uterus and appendages from their adhesions, the elevation of the fundus, the determination of the point above the pubic symphysis to which the uterus may be raised without undue tension upon its ligaments, and its suture with two stitches. For suture-material, boiled silk-worm-gut is preferred, passing the first strand through the entire thickness of the abdominal wall at the point selected, through the fundus of the uterus in a line midway between the two tubal attachments, embracing about one-half inch of the uterine tissue, and through the abdominal wall on the opposite side. The second suture is introduced similarly one-fourth inch above the first, through the abdominal wall and one-fourth inch behind the first one on the posterior aspect of the fundus. These stitches are tied tightly and the remaining wound in the abdomen is closed in the usual manner. The stitches in the abdominal wound are removed in eight days, while those holding the uterus are allowed to remain until the sixteenth day. The patient is preferably kept in bed for three weeks. It has not been my habit to use either tampon, pessary or abdominal support after the patient leaves her bed.

Some months after operation by this

method, the uterus will be found to be restrained from prolapsing into its former position, yet capable of considerable freedom of movement, rendering it probable that an artificial suspensory ligament of some length must have been formed by the stretching of the adhesions of the two opposed surfaces of peritoneum. It has never been my lot to have reopened a patient upon whom I have thus operated.

Celiohysteropexy is indicated whenever an adherent retrodisplaced womb cannot be relieved by non-operative treatment, such as packing and massage, and is attended by such symptoms as disordered and painful menstruation, backache, bearing-down pains, obstinate headache, loss of appetite, difficulty or pain in defecation, and various general reflex nervous symptoms, which are not relieved by persistent local treatment. Practically, this includes nearly all cases of adherent retroposed wombs. Unless the case be very acute when it comes into the hands of the physician, local treatment and massage will do little toward relieving the symptoms. Such women will require celiotomy to safely separate the womb from its adhesions, following which some means for its suspension must be devised to hold apart the denuded surfaces on the posterior face of the uterus and the posterior pelvic wall which corresponds to the adherent area. It is here that celiohysteropexy is indicated.

I do not believe that all non-adherent retrodisplaced wombs are productive of symptoms. Many wombs with relaxed broad ligaments and no peritonitic complications are found to be displaced posteriorly upon examination in the dorsal position, and would be found in anteposition if the patient were examined lying upon her abdomen. In such cases, frequently, the symptoms are dependent upon some other cause. A few of these cases may be relieved by a well-adapted pessary, which should be worn, if well tolerated, for months, with the hope that the ligamentary supports may regain their tonicity. Should they not do so after months of trial, celiohysteropexy is indicated, as I do not believe that any woman should be condemned to life-long use of a pessary. There is a class of neurasthenic women, however, in whom pelvic symptoms are bitterly complained of and in whom a retrodisplacement may be found, which is purely accidental to a primary neurotic condition. Such women are made worse by operative measures and are a tax upon the judgment of the physician.

In some cases the relief to the backache and headache, which is frequently occipital or directly on the top of the head, is immediate. In other cases the improvement is gradual and may not be total for months. In none of my cases have I had troublesome bladder-symptoms resulting from pressure upon that organ.

For the relief of prolapse of the uterus in child-bearing women, celiohysteropexy affords a very important adjunct to the plastic operations for the narrowing of the vaginal caliber. After the uterus has been restored to the pelvic cavity, should the operator trust to narrowing the vagina alone, he will find that the uterus will in a relatively short time dilate its way and the prolapse return. This it does because the ligamentary supports have become overstretched and weakened, and the axis of the uterus coinciding with the axis of the vagina, intra-adominal pressure will urge it onward. Celiohysteropexy is then indicated as an adjunct to the plastic work upon the vagina in order that the axis of the uterus may be maintained at more or less of a right angle with that of the vagina, thus rendering descent impossible.

Usually in women with complete prolapse who have passed the menopause hysterectomy is the operation of choice. When this is for some reason undesirable, after the plastic operations upon the vagina, celiohysteropexy is preferably performed with buried sutures, providing for a more firm and reliable fixation.

In conclusion, I believe that celiohysteropexy, performed in the manner described, will produce an anteflexed uterus with a large area of mobility; that if the plane to which the uterus may be safely raised is estimated, it will not be followed by dragging pains; that during pregnancy there will be little tendency to abort, and that the suspensory ligament will either stretch

or rupture during the enlargement of the uterus, so that no hindrance to delivery of the fetus will be encountered. I can recommend the operation for the relief of those symptoms dependent upon the retrodisplacement of the womb and consider it in the hands of clean operators a safe operation.

HAY FEVER AND ITS COMPLICATIONS.*

H. A. ARNOLD, M.D., ARDMORE, PA.

It has been comparatively recently that attention has been directed to this malady as an affection differing from ordinary coryza or influenza. Systems of medicine, published so late as 1878, only mentioned it incidentally in connection with asthma and bronchitis. To the sufferer it is such a compound of coryza, bronchitis, asthma and other unnamable things, as to entitle it to an individuality commanding our respect and compelling our unwilling submission.

Sneezing, paroxysmal in character and difficult to arrest, generally marks its incipiency. A patient, a few days ago, told me she sneezed twenty-five times in close succession before stopping. This is followed by profuse watery secretion from the eyes and nostrils. The eyes are suffused and blood-shot, and the sufferer is compelled to breathe first through one nostril, then through the other, then use the nose for expiration and the mouth for inspiration, and finally resort to mouth-breathing altogether.

A tickling, irritable cough now manifests itself, with little secretion, except in the posterior nares, which secretion finds its way into the throat and has a peculiar sweetish taste. Of course, all this is accompanied by slight fever, occasioning a drying of the skin, particularly the palms of the hands and the bottoms of the feet. There is more or less general aching, the muscular soreness, perhaps, being greatest in the chest muscles, especial attention being directed to the sternum.

Digestion next suffers, and with the advent of difficult respiration and marked asthma, the tongue becomes heavily coated with a dense whitish fur. Lying, except with the tongue, is now out of the question; hence, the patient is propped up, with the shoulders thrown well forward, and at night and during heavy, rainy weather, feels as if some one had cornered all the air in the world and was doling it out to him in gasps. There is always bronchitis where there are these asthmatic manifestations, but unlike the other mucous surfaces, that of the bronchi refuses to take on the humid condition unless compelled to.

Variously designated as hay fever, rose cold, hay asthma, it assumes the type of greatest severity when the asthmatic condition interferes with rest day and night, sends the blood, poorly oxygenated, from a heart that feebly pulsates 100 or 120 times a minute, and by the constant sense of suffocation and violent effort at respiration, debilitates to an extent only equaled by fever itself. The fever, though present early in the attack, soon ceases, and the skin, in the asthmatic variety, is generally moist and cool when dyspnea is greatest.

It is described as a neurosis associated with nasal hyperesthesia, and the hypothesis has been advanced that hypertrophies of the anterior tips of the inferior turbinated bones produce hay fever, while hypertrophy of the posterior tips are the essential factors of asthma; only, however, when there is special dyscrasia. The neurotic element is supposed to enter largely into it, and latterly its occurrence is attributed to an excess of uric acid in the blood.

This latter view is at variance with the theory largely entertained by nasal specialists who mainly hold to the hypothesis of a reflex neurosis, and cure by local measures applied to the regions of the turbinated bones.

Opinions agree as to the exciting

*Read before the Montgomery County Medical Society, September 16, 1896.

cause. Minute irritant particles from blooming plants and other sources are arrested in their progress lungward by the extensive mucous surfaces of the nares, there to become the specific irritant responsible for this distressing malady. Just what constitutes this irritant has not as yet been determined. My own opinion is that it is not the healthy pollen, but some fungoid growth as yet unrecognized. This conjecture would appear to be borne out by the fact that men who habitually follow the occupation of threshing grain, without suffering any ill effects, have repeatedly been compelled to seek my aid after threshing smutted or mouldy grain, especially oats.

Those who regard this trouble simply as a reflex neurosis devote their attention mainly to the nostrils, and almost invariably find some hypertrophy, deviation of the septum, spot of extra sensitiveness, or other mal-condition, to treat by an eight or ten per cent. solution of cocaine, followed by a ten per cent. solution of menthol in almond oil, or a ten per cent. solution of atropia; the menthol solution ten or twelve times a day; the atropia only once or twice. There is much less disposition to use the cocaine now than when it was first launched into the therapeutic arena as a specific. The special pathologic lesion is carefully sought for and treated by means of glacial acetic acid or the galvanic cautery. This, with bromides, quinine, and other nerve sedatives, are credited with many cures.

Turning to the lithemia as a causative agent we have a treatment consisting of careful attention to the diet, both before and during the attack, proper regard for sufficient exercise, and the maintenance of free biliary discharges. Medicinally, sodium salicylate, in doses of twenty to thirty grains each day, beginning, if possible, before the time of invasion, is highly extolled. Sodium phosphate freely administered, will also be extremely helpful in changing the character of the blood. Potassium iodid will also serve a good purpose in this condition.

Much has been written about the nasal trouble, and specialists invariably find some local affection upon which to concentrate their energies, but the patients in after years tiring of this, or perhaps unable to leave their homes or their beds, pass through their accustomed attacks attended only by the family physician, notwithstanding the fact of their having been cured (?) by orificial surgery.

To the practitioner the nasal difficulty is much more amenable to treatment than the asthmatic condition. Who has not seen numbers of cases relieved of the nasal difficulty by antiseptic and other washes and yet suffer horribly from the asthma? My personal experience is that the coryza soon yields, and yet in certain conditions of the atmosphere I have left the lower floors of my home and gone to the upper stories in a vain attempt to find a comfortable breathing place.

The asthmatic complications being almost invariably accompanied by a dry bronchitis, cocaine must be used cautiously, for in this condition a further drying of the surface only aggravates the trouble. A hypodermatic injection of morphine at bedtime, either alone or with one-fourth to one-half grain of cocaine or $\frac{1}{200}$ grain of atropia will frequently give a good night's rest. I have tried terpin hydrate in doses of two or three grains every two hours during the day, and brought relief through the copious expectoration it produces. Recently I have used kola, on account of its reputed virtues as a general stimulant, particularly to the muscular and nervous systems, and the result has been satisfactory as far as tested. I have no knowledge of its use by anyone else for this disease, hence cannot give any corroborative testimony on this point, nor do I claim any specific action for it. At the same time I have given the nostrils attention by means of antiseptic borated washes containing thymol, menthol, eucalyptol, etc.

Complete relief has been obtained by some of my patients through sea voyages taken at the time when the attack was due; and others experience equal benefit by a residence at the seashore, even after the attack has begun. This is particularly so in some asthmatic ones whose nights have been almost unendurable at their homes, thus necessitating the trip.

The blooming of the clover bloom,

ragweed, and golden rod have been apparently the most prolific causes, as far as my observation goes, the first two being the occasion of semi-annual attacks in me personally. Saturday night last three young ladies from one house came into my office, all suffering severely from the earlier manifestations of this disease, and stated that the entire family were likewise affected. Inquiry elicited the fact that they had profusely decorated their home with golden rod, banks of it being placed in several open fire-places. The removal of it from the house has been followed by speedy relief.

Almost daily I am questioned by patients who remember my experience in former years as to the reason for my exemption this year, feeling certain that I must be using some remedial agent to ward it off. My explanation is that for a number of years past I have had manifestations of lithemia. My blood during the spring and summer months became surcharged with uric acid. Early in the season urticaria would manifest itself after eating certain fruits and vegetables, such as strawberries and tomatoes. Muscular pains would become annoying, and the smaller joints of the hands and feet were at times quite painful and more or less stiffened, the hands and feet being hot and dry, especially at night. This year I ate fewer berries and have refrained entirely from the use of tomatoes and potatoes (white), except for a short time early in their season. I did not use the salicylates, but did use the phosphate of soda, also occasional doses of Rochelle salts. Whether these measures have had anything to do with it or not, I certainly have up to this time enjoyed an exemption not known for several years.

I have purposely avoided reference to the French physician who treats the asthma by rhythmically pulling the tongue; also to the visionary believer in the arsenites who gives arsenite of strychnia, gr. $\frac{1}{100}$, every two or three hours.

THE DANGER OF ARTIFICIAL EMACIATION.

Everyone has his normal weight, though circumstances may determine a more or less temporary increase or diminution thereof. A departure from the normal in either direction is incompatible with perfect health. This, of course, leaves in suspense the question as to what is one's normal weight, and those who are afflicted with what appears to the dispassionate observer to be a superfluity of adipose tissue usually resent the imputation that their obesity is other than an accidental and unavoidable circumstance. This point is easily settled by trying the effects of a carefully regulated but not over-strict regimen associated with daily exercise in the open air. All really superfluous tissue will disappear, although actual weight may not be palpably diminished, firm muscle taking the place of useless and burdensome fat. Obesity, however, is essentially a condition to be dealt with on an exclusively physiological basis. It is, of course, more or less amenable to medication, but the influence of drugs involves a brutal disturbance of the processes of nutrition, which cannot but be prejudicial to health. This is particularly the case in respect of the employment of thyroid gland in extract, which, in effectual doses, often entails symptoms of a very disquieting and even serious nature. It cannot be too strongly impressed upon practitioners that the thyroid treatment of obesity is one attended by a tangible amount of risk. In a German contemporary the case is recorded of a certain well-known dramatic artist, who sought to combat the opulence of form with which Nature had endowed him, and died in consequence. On ceasing to be obese—for the treatment was so far successful—he lost the placid temperament which previously characterized him, and became the prey of an unhappy irritability, consequent on an acute sensation of *malaise*; in short, he became nervous, impressionable, and as unrecognizable from a moral as from a physical point of view.—*Med. Press.*

1858–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, OCTOBER 24, 1896.

EDITORIAL.

PROFESSIONAL ADVERTISING.

There lies before us a printed sheet of some five hundred words, in which a physician, apparently regularly graduated, advertises his hospital, his apparatus and his proficiency. As his advertisement comes from a distant city and is not addressed in care of THE REPORTER, it is fair to assume that many other physicians have been similarly favored. Thus, we feel that we violate no confidence in treating the circular as a published document and not as a personal communication. We are relieved to note that the physician from which this circular emanates is not a fellow-countryman, as witnessed by his name, his style of writing and his explicit statement that he had attended lectures at no less than five foreign medical centres and had practiced abroad successfully for ten years before coming to America. The gentleman is a specialist, confining his practice *strictly* to two distinct branches. But he has a sort of specialty within one of these specialties, and within this inner specialty his skill is brought to a focus in the use of a particular apparatus for a certain lesion. The superiorty of this form of apparatus over all others, the superior construction of the particular apparatus used by the doctor himself

and the superior skill with which it is applied and maintained, are all convincingly set forth in the circular. We are pleased to note, also, the doctor's modest delay in announcing his specialties and sub-specialties, his apparatus and his rates of treatment, till such time as he might "speak the United States language fluently enough to converse without difficulty." This naive statement ought to satisfy the most violent linguistic Jingo.

We can well imagine that a foreigner coming to this country, impressed in advance with the idea that every American is a "hustler," and wishing not only to keep up with his new colleagues, but to show his sympathy with American methods, may sometimes overshoot the mark. It is as difficult to learn the idioms of manners as of a language, while much depends on the personality of the offender. Not long ago, a foreigner was, for a time, denied admission to a medical society, on the ground that he displayed his specialty on his sign. We fail to see if a man may notify the world that he is a physician, why he may not also state what kind of patients he expects. The society referred to acted with peculiar inconsistency, since its president had for years announced his specialty on a sign.

Within a short time we have had occasion to contrast the methods by which three different men have announced their qualifications for using a recent medical discovery. All three have, doubtless, purchased approximately the same apparatus, at about the same cost and with the idea of receiving a profitable return for their investment. All have become, in a sense, advertisers; but note the difference in methods. A has sent no announcement to the profession but a fulsome notice of his apparatus, and its expensiveness has appeared in a daily paper. B has mailed to physicians a circular letter, setting forth his claims in a thoroughly business-like manner, and embellished with an illustration in which Dr. B, readily recognizable, is excitably demonstrating "one of the many forms of apparatus at his disposal" to an interested spectator. C, making no formal announcement whatever, brought his apparatus before a medical society and exhibited it as part of the regular program. All things considered, we believe that the last has advertised himself most advantageously and in the most becoming manner.

It is said with much truth—we personally are quite willing to acknowledge the applicability—that the man who reads a paper or presents a case before a body of medical men, is advertising himself. But it is also true that the one who hangs out a sign or has his address and office hours printed on a card is advertising his profession. No man need be expected to hide his light under a bushel, but we may reasonably object if he places a reflector behind it and surrounds it with a gaudy-colored glass globe. Hard and fast rules cannot be laid down to distinguish the honorable and ambitious physician from the one who is just as near a quack as the law will allow him to be. We cannot say that the sign must be only so many inches wide, nor that the card shall be printed in just such type; that arbitrary rules shall control the appearance of an individual before his medical society and the public. Yet we recognize easily enough—and so do intelligent members of the laity—that certain men's signs and cards are advertising their bad taste as well as their profession; that some are prominent through a natural consequence of ability and industry; others through a vulgarity that verges on quackery.

A word of caution to the compara-

tively inexperienced may be in order. Do not have a sign so large or so conspicuous that it seems to say to the passer-by: "Stop, I want you for a patient." Do not word your cards so elaborately that one may read between the lines: "I can't afford to lose a patient in any branch of practice, and I will stay in my office all day and ride all night rather than miss a dollar." The best clients prefer a man who is not too anxious for their patronage; they do not wish to invite into their homes, even on a professional errand, one who would rather lose his self-esteem than a patient. The class of practice which is secured simply through displaying a sign is not large, is not usually honest, and does not include many respectable and desirable persons. It is better to let a few patients turn at your nearest corner in the direction of your rival than to have thousands of people who will sometimes need medical care laugh at a conspicuous sign placed on a city guide-post and bearing a hand pointing toward your office. Do not plaster your house with signs; do not announce on your cards that you are a specialist for the eye and ear, nose and throat, skin, surgery, and obstetrics; do not have so many office hours that people will wonder if you ever visit a patient or indulge in innocent recreation. In short, be a gentleman first, and a physician afterward, and do not disgust a possible patient by obtruding your profession upon his attention at every opportunity.

CORRESPONDENCE.

AN UNUSUAL MONSTROSITY.

EDITOR OF THE MEDICAL AND SURGICAL REPORTER:—

On October 9th, I was summoned to attend Mrs. M., who was five months pregnant, had pain in lower abdomen and profuse bleeding, which had begun several days previous.

Making a vaginal examination, I found the os contracted, and consequently advised perfect rest, administering vibernum prunifolium in drachm doses. Two hours later, I was summoned again. Upon my arrival, I found that the fetus and placenta had been passed. The placenta and membranes were intact. The patient being very sensitive, a most thorough examination was impossible, yet I believed everything to be in normal condition. The rapid dilatation I attributed at the time to some manual interference.

On the following day, I found the temperature of the patient 100⅘, pulse 86. On the 11th, I found the patient resting easy, temperature 101⅘, pulse 100. On the 12th, she was restless and had a temperature of 101⅘, with pulse 96, which I believed to be due to engorged breast and constipation. I had the breast strapped and properly oiled and administered a saline. On the 13th, the temperature reached 103, with a pulse of 100. The discharge was bloody, quite thick and of a somewhat fetid odor, and I determined that an intrauterine douche should be given, and if the conditions were not relieved, curettement should be resorted to during the course of the day.

During the day, the patient suddenly passed an object which greatly shocked her, and I was summoned in haste. At first I believed it to be a clot, but upon closer examination it was evident that it was another fetus, deformed. It consists wholly of a bony head without a body, tapering and resembling a mouse or a fox. It is two inches long and an inch in diameter at its greatest thickness, the eyes and mouth not well marked.

There is a fuzzy coat, resembling hair, at the top and thickest portion.

Subsequently the temperature dropped and the patient is now convalescing.

I account for the presence of the monstrosity, which I have been fortunate enough to obtain, by the impregnation of a secondary ovum. Should it have reached its full term, it would come under the class of ectromelic monstrosities, or those not having a body or extremities.

J. MISHKIN, M.D.

PHILADELPHIA, October 20, 1896.

ABSTRACTS.

THE BLOOD IN CHOREA.*

CHARLES W. BURR, M.D.,† PHILADELPHIA.

The blood of thirty-six cases of Sydenham's chorea, treated in the clinics of Drs. Weir Mitchell, Sinkler and Lewis, at the Infirmary for Nervous Diseases, was examined by Dr. James Ely Talley. In each case the hemoglobin was estimated and the red corpuscles counted. No count was made of the white corpuscles. The hemoglobin and the corpuscles were at the theoretic normal in only two cases. In none was the anemia extreme. In the most severe case, the hemoglobin-estimation was forty-five per cent., and the number of red corpuscles 3,450,000. The chorea was slight and the patient had serious heart-disease, to which the anemia was referred. In another case, complicated by epilepsy, the hemoglobin-estimation was sixty per cent., and the number of red corpuscles 3,600,000. In one very bad, uncomplicated case, the hemoglobin-estimation was sixty-five per cent. and the number of red corpuscles 4,800,000, and in another the hemoglobin-estimation was sixty per cent. and the number of red corpuscles 3,850,000. These were the most anemic cases. In twenty-four, the hemoglobin-estimation reached eighty per cent. or over, and the number of corpuscles 4,000,000 or more. In twenty-nine the hemoglobin-estimation reached seventy-five per cent. or over.

The conclusion was reached that the blood is rarely absolutely normal during an attack of chorea. There is usually a moderate diminution in the hemoglobin and a relatively still smaller decrease in the number of red corpuscles. The anemia is, therefore, chlorotic in type. There is no relation between the severity of the chorea and the severity of the anemia. When the anemia is severe, there is usually some complication competent to explain it. The belief was expressed that anemia is not an immediate, direct, exciting cause of chorea, and but infrequently a predisposing cause. In the great mass of choreas, the anemia is the result of the chorea—is secondary. In the rare cases of chorea, which seem to be caused by mycotic infection, the anemia may be toxic.

*Abstract of article read before the Philadelphia County Medical Society, October 14, 1896.

†Clinical Professor of Nervous Diseases in the Medico-Chirurgical College, Philadelphia.

"Is there any particular nervous complaint connected with your profession?" asked the cheerful idiot of the rifleman. "There is the tennis arm, the bicycle face, and the baseball arm, and I thought there might be something of the sort among you gunners."

"No," said the rifleman; "nothing of the sort."

"It is very queer," said the cheerful idiot thoughtfully. "I didn't suppose you could hit the target without taking sharpshooting pains."—*Indianapolis Journal.*

A shoemaker had this card in his window: "Any respectable man, woman or child can have a fit in this shop."—*News.*

MEDICINAL TREATMENT OF INTESTINAL CATARRHS IN INFANTS.*

In most cases occurring in infants simple dietetic treatment is sufficient to remove even severe affections of the intestines and dyspepsias, though in all cases medicinal treatment is not to be ignored. The medicines worthy of our notice are, in the first place, muriatic acid and pepsin or papain which tend to establish a better digestion, thus preserving the intestine from irritation and promoting recovery. An excellent remedy, which acts as an antiseptic to the whole digestive tract, as well as a weak astringent, is resorcin, in doses of 0.01–0.3 gm. (Resorcini 0.2–6:100, in teaspoonful doses). Where the intestinal disease is, however, of longer duration, or the weakness of the patient is an indication for a more rapid assimilation of nourishment, we must fall back upon a drug which exerts a wide local influence on the intestinal canal. In such cases the salts of bismuth and tannin are most important remedies. The salts of bismuth have an excellent temporary action, and are of great value in catarrhal inflammation of the intestine.

Bismuth salicylate 0.5 gm. three times a day may be given to infants; these preparations do not exert any long-continued effect, however, so that in more chronic cases, their administration must be continued for quite a long time, and relapses are likely to occur when they are discontinued.

The most energetic remedy in this respect, however, is tannic acid which is best given pure, in a one-half to one per cent. solution of some corrigent. Of less service are the tinctures containing tannic or gallic acid, as tincture rhataniæ, catechu, etc., so also the much used and abused Russian tea. Decoction of lig. campech. has much less power than tannic acid, but has the advantage of not affecting the appetite, and being nearly always well borne. Tannin, cotoin, and tinct. of coto. are pure styptic remedies. Opium should not be used in the systematic treatment of the intestinal disorders of infants, at least it is not a remedy which should play a prominent rôle in these cases.

During late years tannin therefore has again gained a prominent place in the therapeutics of intestinal catarrh. If we have to deal with comparatively, light affections, where with one day's fasting, followed by a strictly milk diet for two to three days, and the simultaneous administration of tannin the diarrhea can be checked, this remedy is sufficient for our demands. When, however, it is necessary to continue the drug for any length of time, it will be observed, that although the diarrhea ceases, the child's general condition and weight do not improve. The reason for this is that the tannin, as far as it is active in the stomach, forms with the albumin a combination which is not very soluble, and does not exert much action in the intestine, besides curtailing to some extent the secretion of the gastric mucous membrane. We are, therefore, compelled, where the disease is of long standing, after giving the tannic acid for two to three days, to substitute muriatic acid, returning again to tannin, or some preparation containing it after a few days, thus losing time before a cure is obtained.

For these reasons the discovery of an acetyl-combination of tannic acid by H. Meyer, which is not decomposed in the acid secretions of the stomach, but only in contact with the alkaline fluids of the intestinal tract, has been an important addition to our pharmacopeia.

This preparation only becomes active when the tannic acid is liberated by the splitting of the acetyl-groups. This occurs only in a very small degree in the mouth, through the action of the saliva, which can be proved by allowing a quantity to remain in the mouth for some time, when the astringent taste of tannic acid is gradually perceived.

However, the quantity which is decomposed by the saliva forms only a fraction of a milligram, which cannot produce any disturbance of the stomach. In the stomach itself the drug is insoluble if no abnormal fermentation process is present, which produces an acid re-

*Dr. A. Hock, of Vienna, in Wiener *Medizinische Blatter*, No. 30, 1896.

action. The splitting up of the preparation takes place in the intestine under the influence of the alkaline intestinal secretions, and reasoning by analogy we may assume that the more intense the action of bacterial agents in the intestines the greater the extent of the decomposition of the drug, so that the effect is strongest where most necessary. During normal digestion and rapid peristalsis, the greater part of the drug probably passes through the intestines unchanged, particularly if large doses are given, thus explaining the safety of large doses; while other tannic acid preparations, as is well known, are not always free from objection, as they have a tendency to produce enteritis membranacea.

The different authors who have used this remedy—Kunkel, Drews, Biedert, Escherich, Bachus, Hewitt and others—have all expressed themselves in terms of praise, and I can only do the same.

As regards the dose of the remedy, I have given it in very young children (up to five months of age) in doses of 0.1 Gm., in older ones in 0.2 Gm. doses, and have found this sufficient. On account of the preceding theoretical considerations, I have ordered the remedy after meals, at first usually six times a day, later four times daily.

℞

Tannigen 2.0
Sacch. lact. 3.0

Divid. in chart No. X.
Sig. : One-half powder every four hours.
(Children above one year of age a whole powder.)

In some cases I have combined it with muriatic acid.

The action is very prompt; a diminution in the number of stools occurred within twenty-four hours. The admixture of mucus disappeared generally on the third day, and the number of stools decreased about the same time to one or two in twenty-four hours.

The following cases have been treated by me:

1. Joseph Willert, ten months old, artificially fed, has six to eight mucus stools a day. Was cured after three days' treatment.

2. Alois Machots, eleven months old, artificially fed, rhachitic, has three to four passages daily. After using tannigen for three days, only one passage daily. Was ordered cod-liver oil with phosphorus.

3. Marie Schipel, twenty months of age, had a diarrhea for two weeks, following an error in diet. After taking tannigen for three days, in doses of 0.8 Gm. a day, stools reduced to one daily. On discontinuing the remedy, diarrhea reappeared, which disappeared, however, after taking 2.0 Gm. more of tannigen.

4. Josefa Fuchs, child at the breast, suffers with bronchitis, diarrhea, numerous green passages; after administration of 2.0 Gm. tannigen, cured; the bronchitis also has improved.

5. Gyula Linder, three months old, artificially fed, numerous green stools, containing much mucus; cured after three days' treatment.

6. William Strond, seven weeks old, cured in three days.

7. Victoria Holly, eight months old, a rhachitic child, numerous discolored stools with much mucus; after three days, only two stools a day. Cod-liver oil and phosphorus ordered.

8. Franz Watzl, three years old, was dismissed cured after five days' treatment.

9. Fanny Halloki, seven months old, suffering with intestinal catarrh for two weeks. General appearance, bad; numerous stools (mucus); temperatue, 38°. Time of treatment, nine days; after that, normal stools.

10. Franz Lonecky, nine months old, was cured after four days' treatment.

11. Marie Schwarz, seven months old. Vomiting and numerous green stools. Acid muriat., 1.0:100 and tannigen. After six days, vomiting ceased and stools were reduced to one or two a day.

There were treated altogether fifteen children (twelve under two years of age) for intestinal catarrh; the duration of treatment was three days on the average; in one case it was seven days; sometimes improvement in the stools took place within two days. To rhachitic patients, with a tendency to diarrheal stools, tannigen was given before the usual treatment with cod-liver oil and phosphorus; and in every case with good results. In four cases of influenza

with gastro-intestinal symptoms in older children (three to five years of age) salicylate of bismuth acted decidedly superior to tannigen; but in cases of intestinal catarrh, following a pneumonia, tannigen did very good service.

In the diarrhea of tuberculosis it proved very beneficial for the time being, as Escherich has also observed.

The diet, it should be remarked, was the same in all cases. Young children were given milk, and a 7 per cent. solution of sugar of milk in equal parts. Children over eight months of age received undiluted milk and no other food, with strict directions as to the time of feeding.

According to my experience, the course of the cases treated by tannigen was decidedly shorter than under the expectant treatment alone, or that with resorcin. Tannin also materially shortens the duration of the disease.

In acute dyspepsia, muriatic acid and dieting are the sovereign remedies, sometimes in connection with washing out of the stomach.

It goes without saying that the children should receive their nourishment sterilized. Careful cleansing of the bottles with sapo viridis, as Heuser recommends, and a careful boiling of the sugar of milk solution is not to be omitted. The intervals between meals should be about three hours; and successful results will usually be obtained even when the Soxhlet method cannot be used.

If vomiting is absent, and the stools contain only a small amount of undigested material, tannigen may be administered at once; otherwise it is advisable to precede its administration by abstinence for one day (muriatic acid and soda water being allowed as drinks). As already mentioned, the remedy exerts no disturbing effect upon the stomach; so that, even where there is a tendency to nausea, it is usually retained.

CASE OF EXTRA-UTERINE PREGNANCY WITH FETUS RETAINED FOR SEVEN YEARS.*

Mrs. R., aged twenty-eight years, was married nine years ago, then a robust, healthy girl, weighing 133 pounds. In about a year after marriage, she became pregnant and moved along about as the average pregnant woman until, what she thought, the end of the eighth month, when she was taken with pains in her back and bowels. She sent for a physician, who found her suffering from what appeared to be normal labor pains; her size and other appearances indicated pregnancy at or nearly full term. She was in labor for two days, when the pains suddenly ceased and the abdomen became somewhat less in size.

She was quite ill for five or six weeks, but recovered fairly good health and resumed her usual household duties, but there remained quite a bulky lump in the abdominal cavity. This condition lasted for seven years, when she became seriously ill with acute peritonitis, from which she appeared to get better, but not entirely well.

On July 2d, she became worse and was in a very critical condition, with colliquative diarrhea, and so much emaciated that the skin appeared to adhere to the bones. Pulse 140 and very feeble; no appetite and unable to sleep. I found a large, irregular protruberance in the right inguinal region; after eliciting the above history, I pronounced it the remains of a fetus. She remained in this condition until the morning of July 14th, when she died.

On the evening of the same day, in the presence of other physicians, I opened her abdomen and found nearly all of the contents of the cavity in an offensive, gangrenous condition. I also found the remains of a ruptured cyst, which had contained the bones which I now present for your inspection. They appear to be the decomposed bones of a full-term child.

The uterus and left ovary were normal. I could find no trace of the right ovary or tube, which would indicate that this had been an extra-uterine conception.

*J. A. Patterson, M.D., in *Pittsburg Medical Review.*

My reasons for bringing this case to your attention, are: The rarity of such cases; the age of the fetus before the cyst gave way, and the recovery and good health for more than seven years. She probably would have lived for a longer period if acute peritonitis had not set in, perhaps from some other cause, for she had been working hard and lifting heavy weights.

I believe this would have been a very encouraging case for operation, if the condition had been recognized and consent could have been obtained.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, October 14, 1896.

The President, DR. J. C. WILSON, in the chair.

DR. F. W. TALLEY read a paper upon

THE PROPER POSITION OF CELIOHYSTEROPEXY IN GYNECOLOGY.

[See page 525].

DISCUSSION.

DR. CHARLES P. NOBLE said that, a short time ago, he collected from American operators over 800 cases of hysteropexy and studied the results which were secured. He had, himself, operated about seventy-five times and enough other cases had been operated on by Alexander's operation to make his experience cover about 100 cases. Dr. Noble has not observed pain after suspension of the uterus, and he believed it to be a comparatively infrequent symptom. Every surgeon has been unfortunate enough to have operated upon hysterical cases at times and upon neurasthenic cases in which it is sometimes difficult to determine the cause of symptoms present, but these are not to be included.

In the 800 cases studied there was absolutely no evidence that the operation favors abortion. The same was true of a larger series of cases collected from foreign medical journals. The whole series covered over 1500 cases altogether and in the whole number there was no evidence whatever that the operation favored abortion, so that in the absence of direct evidence this objection must be considered theoretic and without foundation.

The third objection, of dystocia, undoubtedly has a basis, and difficulty has arisen from too firm fixation between uterus and abdominal wall. The question is one of fixation and not of suture, because dystocia has been just as frequent when there was no buried suture as when buried sutures were used. In one of the American cases in which extreme difficulty was encountered in subsequent labor, there was suppuration after the operation of suspensio uteri; a large surface of adhesions was left and when pregnancy took place a tumor formed, obstructing the inlet of the pelvis. Dr. Noble had personal knowledge of two other cases, and in these, buried sutures were used.

If a technic is adopted that will attach the uterus to the abdominal wall lightly, dystocia will not occur, or but very rarely. As a matter of fact the percentage of difficult labor has been two per cent. in the series of American cases, (that is *serious* difficulty not to be relieved by the ordinary resources of obstetrics)—a comparatively small percentage when the suffering that the operation is intended to relieve is considered.

Dr. Noble referred to one operator with whose results he is familiar, who made use of the through-and-through suture described. This operator also scarified the uterus. The result in his cases is that adhesions are so extensive that he is no longer as ardent an advocate of the operation as he was some time ago. The use of a through-and-through suture must favor the formation of more extensive union than if the buried suture is used, for the reason that the former draws the abdominal wall down tightly against the uterus and holds it there whatever number of days the stitches are left in, keeping a large surface of the uterus in contact with the abdominal wall and in that way insuring a large surface of attachment. On the other hand, if the peritoneum is lightly attached to the uterus the intra-abdominal pressure immediately after the operation tends to drag the uterus from the abdominal wall and in that way to form a light abdominal attachment.

Dr. Noble said that he is sufficiently conservative to find use for the pessary. A pessary is all that is called for in a small percentage of movable retrodisplacements. This is especially true in recent cases and puerperal cases when the uterus is large and heavy and involution has not taken place. Many cases recover under this method of treatment. All that is necessary is a certain amount of patience until good results are obtained. Very few patients with retrodisplacements of non-puerperal origin are cured, but many can wear a pessary comfortably. For movable displacements, if operation is necessary, Dr. Noble prefers Alexander's operation of shortening the round

ligament. This is better than the suspension operation because it gives a result that more nearly approximates the normal condition and is not any more dangerous than a suspension, if as dangerous. Dr. Noble has used both methods and judging from his own results he prefers the Alexander operation in this class of cases.

Dr. E. E. Montgomery said that the subject is an exceedingly interesting and important one. It is important from the influence that fixation is likely to have upon subsequent gestation and parturition. There is no question whatever, but that the method of treatment is capable of giving relief to women who would otherwise be victims of disease and distress, who have possibly spent years of suffering before the operation was done, and would be condemned to lives of invalidism were it not done. In view of the possibility, however, of trouble existing during subsequent parturition, it seems wise that the advisability of other methods of securing the same object should be considered. The cause of trouble is partly due to the pain and distress during the progress of gestation, and to thinning of the posterior wall of the uterus during the development of the organ, which renders pains or contractions subsequently irregular and necessarily increases the danger of rupture of the uterus. The method suggested of fixing the uterus would seem to result in either too firm or too slight union of the uterus and the abdomen. If the union is not firm, the removal of the sutures will be followed by separation and the uterus will drop back, with redevelopment of the old condition.

In patients who are likely to become pregnant subsequently, it would seem to be a better plan of procedure to do the operation of shortening the round ligaments within the peritoneal cavity, as suggested by Mann. The uterus is thus swung in the pelvis, remaining perfectly movable, while at the same time it is brought forward. The organ is thus kept in place without the probability of trouble during gestation. In those who are not likely to become pregnant, the operation of ventrofixation may be done, as it can be performed more quickly. Dr. Montgomery referred to a patient who underwent the operation of fixation at the hands of a surgeon who uses a buried suture, and introduced the suture only between the peritoneum and fundus of the uterus. This patient has complained of a good deal of distress during gestation, from dragging upon the abdominal scar. She has reached the sixth month of gestation and is threatened with abortion. The latter is not due, however, to the fixation operation, but rather to having been run down by a bicycle. Upon examination of this patient, the finger could readily be passed through the cervix into the uterus and presented evidence of some flexion of the anterior wall of the organ, while the posterior wall was shortened and smooth, showing, if anything, that the dilatation of the uterus has been accomplished to some degree at the expense of its posterior rather than its anterior surface.

Dr. John C. DaCosta said that he had performed quite a number of suspensions of the uterus, and had had the privilege of examining some of the cases months after the operation. The patients in whom he had noticed pain were hysterical or very nervous women. This pain generally did not last more than a day or two. There were two cases in which it was accompanied by a little depression of the skin at the side where the sutures were put in, and which apparently pulled on the abdominal wall. In these cases difficulty in labor depends entirely upon the technic of the operation, and if through-and-through silkworm-gut sutures through the abdominal wall are used, and left for sixteen days, there is danger of dystocia. If the uterus is fixed firmly to the abdominal wall so that it cannot yield at all, irritation at least will result. Inflammation may be set up, as firm adhesion between the muscles of the uterus and muscles of the abdomen may take place as in a cut of any other part of the body. The trouble in these cases, and in the very two per cent. Dr. Noble speaks of, is due to the operation having been done with through-and-through silkworm-gut sutures and to firm adhesions.

The technic of the operation has a great deal to do with the success or non-success. Dr. Kelly, in his last modification of ventrosuspension of the uterus, produces fixation by putting the sutures near the fundus of the uterus a little below the top of the posterior wall. Now, if, in introducing the sutures, not more than an eighth of an inch of peritoneum and fascia of the abdomen be included, and not more than from three-eighths to half an inch of uterus, not going more than a sixteenth of an inch into the uterus, and not using a heavy suture that will remain intact in the abdomen, but as light silk or catgut as will carry the uterus, putting the first stitch in the *top* of the uterus, very good results will be secured without the risk pertaining to the through-and-through silkworm-gut suture.

Dr. DaCosta referred to a case seen more than a year after operation, in which the retroflexion was so great that the fundus of the uterus was back against the cervix. Examination showed that the posterior wall at the internal os was thinned out to not more than once or at any rate twice the thickness of blotting-paper. A cystic ovary was removed, and suspension of the uterus was effected with very fine silk, including but little of the uterine tissue. At a later operation for omental adhesions by another surgeon the silk stitches were found to have disappeared, while the uterus was suspended by a long semi-serous cord, two inches in length, the viscus itself normal in position, perfectly movable, and its posterior wall, which had been so attenuated, had become normal in size. The uterus was perfectly able to carry itself and no

longer required suspension. When such a condition exists there is nothing to prevent pregnancy or to interfere with parturition. A ligament of that kind, which will stretch that much in so short a time, cannot offer any obstacle to labor. In the case of another woman similarly operated upon, and five months later opened on account of tuberculous peritonitis, the same favorable condition of affairs existed. In Dr. DaCosta's experience these uteri do not drop back after the operation. The ligament is sufficient to hold them up and keep them from dropping back, and a very slight suspension does it. The uterus, being kept in proper position, is afforded the proper amount of nutrition, while the blood is able to get to it and it becomes normal in character. In some cases there is a little depression, which disappears at the end of three or four days, as if elongation had already taken place and semi-serous attachments were forming. If the uterus be pitched forward and stitches put through its back, pain is more likely to be present, as the uterus is not placed in a normal position, but an antedisplacement is produced.

Dr. J. C. Morris said that he had no experience with the operation of hysteropexy. He had relieved with pessaries such cases as came to hand; more especially retroflexions, almost without exception, had been relieved by intrauterine steam-pessaries properly supported. For that reason he had never felt justified in subjecting patients to the other risks. Placing the uterus in position allows of normal nutrition taking place in the organ and relieves congestion, which is otherwise always present. If stimulation is desired in order to secure a more rapid result, a galvanic pessary, composed of zinc and copper, will frequently yield excellent results. Through these means many enlargements of the uterus have decreased, so that shorter and shorter uterine stems are required until the normal size is reached. In married women normal pregnancy has followed this treatment.

With such results, while not as brilliant as those obtained from operation and requiring a great deal of patience and perseverance, there seems no occasion to resort to surgical means.

Dr. A. O. J. Kelly read a paper upon

Essential Paroxysmal Tachycardia, With the Report of Four Cases.

[See page 513.]

DISCUSSION.

Dr. A. A. Eshner related that in a considerable number of cases of vaso-motor ataxia in which he had examined the urine for Dr. S. S. Cohen, in some of which there had been rapidity of action of the heart, erythrocytes in varying number were found in a not very small proportion. The simplest explanation of the fact is that the relaxation of the renal vessels from diminished vaso-motor tonus permits of the escape of individual red corpuscles.

Dr. S. Solis-Cohen said that the cases to which Dr. Eshner referred did not number among them any that would fall under the definition of essential tachycardia in the sense that all other pathologic phenomena were absent from the complexus. He could not agree with the nosologic scheme that would sharply separate cases such as those reported from all other cases of cardiac and vaso-motor disturbance.

When there exists a large group of pathologic phenomena comprising cases that shade into one another imperceptibly, it seems a philosophic blunder to draw a sharp line at any one point arbitrarily chosen, saying cases on this side belong in one group, and cases on that side in another. This rather narrows our conception of the fundamental pathologic factors; whereas, if we include in our study all the cases—just as we would include in our study of zoology all the different varieties of a species, or all the different species of a genus—we are the more likely to arrive at a satisfactory conception of the causative mechanism. In other words, tachycardia is to be looked upon not as a disease, but as a symptom, just as glycosuria, albuminuria, asthma, and other phenomena formerly considered diseases are now looked upon as but symptoms.

Dr. Kelly's adaptation of the theory of the motility of the neuron to these cases is certainly ingenious, but the question at once comes up, Why is the contact of the arborescent extremities of the neurons interfered with? In the cases of vaso-motor disturbance studied by Dr. Cohen there seemed to be several exciting causes of the interference with vaso-motor and cardiac tone. This loss of tone was called *ataxia* because it is not a paresis, and, though aggravated paroxysmally, it is not a spasm; it is not an overstimulation, it is not an understimulation; it is simply an irregularity. Less is assumed in terming it an ataxia than by using any other term.

In some, over-exertion was the exciting cause; in some, emotion; in some, change of temperature; but in the majority of instances it was poisoning of some kind; in some cases, poisoning by drugs, in other cases, poisoning by food, in other cases, poisoning by failure of function, intestinal or renal or thyroid, or other similar condition. We have thus advanced one step further if we say that the paroxysm is usually a toxic manifestation; the toxins being many in number and various in character. These interfering with the function of the neuron, then the other conditions may occur. We must, however, go still further, and assume, as the condition rendering patients susceptible to this result of intoxication, a fundamental fault in the physical, chemic, or vital constitution of the nervous centers of visceral life, a failure of development that may be congenital, indeed hereditary, as it was in many of Dr. Cohen's cases, or similarly faulty constitution acquired as the result of various depressing influences, perhaps infectious disease, as in Dr. Kelly's

case following influenza. The interference with the nutrition and with the further development of the nerves and ganglionic centers owing to the profoundly depressant effect of the poison of influenza was in that case equivalent to what would have occurred in some other cases through hereditary failure of development.

It is true that we have not yet reached the ultimate cause, but if we can go but these two steps further toward it we shall be better able to diagnosticate and to treat cases, and better able to formulate a prognosis in the individual case.

Dr. Cohen gave an account of a patient presenting a most marked case of vaso-motor ataxia. For six months he had been without any of the paroxysms to which he had been subject before coming under treatment, and he attributed the recurrence of the paroxysm to ale-drinking, which had shortly preceded it. This conclusion seemed justified, as errors in diet, drink, or venery usually preceded the paroxysms. The attack begins with blurring of vision, one-sided headache, as in ordinary migraine, but it then goes on to violent tachycardia, following which comes numbness of one upper extremity—always that opposite to the side of the head which is affected. The patient's mother had goiter; he himself presented moderate enlargement of the thyroid gland, and was benefited by the use of thyroid extract in very small doses. This patient has been relieved in all of his paroxysms by taking nitroglycerin. In the attack which he reported, he took ten drops of the spirit of glonoin, with relief in two hours; whereas, before treatment the condition required several days for complete relief. In this case the phenomena, as shown by facial pallor, are not those of paresis, but of over-constriction of the vessels, and nevertheless it is attended with tachycardia. In a case of paroxysmal tachycardia, observed by Dr. Cohen, the tachycardiac attacks seemed to alternate with ordinary paroxysms of epilepsy, and sometimes flushing of the face and tachycardia preceded or accompanied the convulsions. Dr. Wood has advanced the idea that there is a very intimate relationship between tachycardia and epilepsy, suggesting that tachycardia might really be called an epilepsy of the heart; but the paroxysm and its provocative cause must be separated in study from the underlying susceptibility to such cause and such reaction before useful conclusions as to the true character of either can be reached.

Dr. Wharton Sinkler said that the occurrence of tachycardia in neurasthenics is so common that we cannot help associating the conditions which bring about neurasthenia with the attacks of tachycardia. The excessive heart-action is one of the most annoying symptoms in neurasthenics, and one of the most difficult to overcome. The theory of the motility of the neuron, while very attractive and plausible, is not based upon any firm foundation, and is purely speculative. There is no question that the neuron is an entity, and that disturbances in its function bring about disturbances throughout the nervous system.

It seems that the cause of disturbance which takes place is rather one of mal-nutrition than toxic, because neurasthenia is essentially a condition brought about by malnutrition, and improvement in the nutrition of the patient removes the neurasthenic state and along with that the attacks of tachycardia.

Dr. J. P. Crozer Griffith said that a survey of the subject had more and more impressed him with the impossibility of drawing sharp lines between so-called essential tachycardia and tachycardia from other causes. In many other affections it has become necessary to limit the use of the word "essential" very largely; for instance what was formerly called "essential anemia" we now attribute to a number of causes. The same facts apply to "essential epilepsy." Experiments of recent years have demonstrated distinct organic affections in many cases which for want of a better term were spoken of as "essential."

Attacks of essential tachycardia are simply those in which an originating influence cannot be found. The reflex tachycardias are naturally functional in origin.

Tachycardia is of frequent occurrence at the menopause, in conjunction with other disturbances. Dr. Griffith related the case of a woman in whom following a dislocation of the shoulder the heart remained for several weeks excessively rapid, with the pulse at 150, but curiously enough without any subjective symptom whatever, aside from palpitation. Absolutely no organic cause for the condition was to be found, and the heart was perfectly normal.

Another case would have been classed at one time as essential tachycardia and at another as arrhythmia, which would suggest the existence of organic trouble, probably myocarditis.

The President said that he had recently seen two cases of so-called essential tachycardia. One occurred in a man who had endured great hardships in consequence of shipwreck. The other was in an elderly lady who had broken down after a prolonged period of anxiety due to the illness of her only daughter, followed by serious pecuniary loss. Both cases presented in a typical manner the phenomena of essential tachycardia. There were, in both, intervals of prolonged relief from cardiac symptoms, with paroxysms occurring with great suddenness and usually without obvious immediate cause. Dr. Wilson coincides in the view that even so-called essential tachycardia must be looked upon as symptomatic, as it is often associated with conditions of malnutrition which, for want of a better term, are classed under neurasthenia.

Dr. T. J. Mays expressed the conviction that some cases of tachycardia will show organic changes in some portion of the nervous system. Cases of essential paroxysmal tachycardia are always puzzling because they do not

harmonize with views gained from physiology. He concurred in the view that often in these cases the accelerator nerves are concerned, while the vagus or the medulla oblongata is involved principally.

The literature contains a number of cases in which pressure by an enlarged tumor or gland upon the vagus produced tachycardia, showing that knowledge of the normal inhibitory power of the vagus does not harmonize with pathologic knowledge of this condition. If it did then the heart's action would be slow instead of accelerated in these cases. The possible explanation offers itself, however, in this connection, that the pressure on the vagus may paralyze its inhibitory power, and that the heart's action is more dominated by the accelerator nerves. The belief was expressed that the condition of paroxysmal tachycardia is associated with many abnormal conditions, and that it is always a condition of depression. Dr. Mays has found it associated with angina pectoris and believed that it is a spasmodic disease and has a close alliance with epilepsy and probably with asthma too. Furthermore, he has found it in cases of lead-poisoning. It is also found in alcoholic poisoning and also in syphilis, and possibly in some metallic toxic conditions.

No one plan of therapeutics is adapted for the condition, which requires a varied application of remedies. In one case of angina pectoris, associated with the attacks, applications of ice to the neck proved very effective.

Most cases are benefited by strychnin together with general supportive treatment, including nourishing food, and, if well-borne, cod-liver oil. To give these patients the best therapeutic results it is necessary to operate through the whole nervous system.

Dr. A. O. J. Kelly agreed that taking any series of cases as they present themselves, tachycardia included, it is absolutely impossible to arrange them all in any exact nosologic order. Nevertheless, it is quite true that the cases reported, especially the first two, are instances of what may be properly designated essential paroxysmal tachycardia, according to the definition given at the beginning of the paper.

There are many cases in which the ultimate principles occasioning the tachycardiac symptoms are toxic. These cases may be designated symptomatic or reflex; some of them are alcoholic. It is interesting in this connection to note that Déjérine, in some such cases, has demonstrated, after death, degeneration of some of the fibers of the vagus. In elaborating the theory of the motility of the neuron it is admitted that the ultimate principle might be in many instances nutritional.

The best treatment may be termed symptomatic, and it is well to remember that numerous paroxysms may be terminated by stimulation of the vagus in the neck, and by such procedures as drinking a cup of cold water or hot coffee. An ice-bag to the precordium or a cold douche to the chest or neck may be adequate.

Under certain circumstances the injection of morphin is followed by good results, but certainly in minor paroxysms of tachycardia this drug is not indicated. In prolonged attacks it has been given with asserted good results. In other cases digitalis has been given and the attacks have ceased. The result, however, cannot always be ascribed to the medication employed.

Dr. C. W. Burr read a paper on

THE RELATION OF ANEMIA TO CHOREA.

[See page 534.]

DISCUSSION.

Dr. Wharton Sinkler agreed with all that Dr. Burr had said. It is the popular impression—that which prevails among the medical profession at large—that anemia is a predisposing cause of chorea. The Collective Investigation Committee of the British Medical Association a few years ago collected 432 cases of chorea and found that ninety-two of these were anemic. Dr. Rachford, of Cincinnati, considers that chorea is due to what he calls a scrofulous anemia, and says that it is directly curable by iron iodid.

From his own experience, Dr. Sinkler does not think that in Philadelphia, or at least among the patients who come to the Infirmary for Nervous Diseases, choreic children as a rule look anemic. A scrutiny of the books at the Infirmary shows that of forty-six cases in which a blood-count was made—probably including those studied by Dr. Burr—the average number of corpuscles was 4,825,000 to the cubic millimeter; in seven cases the number of corpuscles amounted to 6,000,000 and over; in ten, between 5,000,000 and 6,000,000; and in sixteen between 4,500,000 and 5,000,000. The hemoglobin-estimations were practically normal—that is, out of forty-seven cases in which an examination was made as to the percentage of hemoglobin there was an average of 79.4 per cent. The lowest blood-count was 2,800,000; the highest, 6,500,000. In twelve cases the hemoglobin was estimated at over 90 per cent. These results are about as good as would be expected in an equal number of healthy children. They bear out the assertion that anemia does not predispose to chorea.

Dr. Alfred Stengel said that his experience in the examination of the blood in cases of chorea is limited to about a dozen cases. In these the average blood-count was between 4,000,000 and 5,000,000, and on the average, the hemoglobin was about equally reduced. In no case was there marked anemia. In a few cases there was a moderate leukocytosis. Altogether, the conclusion seems justified that anemia is not a frequent complication of chorea, much less a cause of the disease.

The interesting fact, however, to be considered is that many cases of chorea present an anemic appearance. This has led to the general belief that chorea is associated with anemia and is probably dependent upon it.

An anemic appearance, however, is by no means always an indication of actual anemia. In a recent paper on chlorosis, by Dr. Townsend, of Boston, allusion is made to the unreliability of pallor of the skin or mucous membranes as a sign of reduction of hemoglobin. The reverse is also true. Individuals who have normal blood may present an exceedingly anemic appearance.

A few years ago a form of disease was described by Winternitz, of Vienna, as *anœmia spuria acutissima*. A female servant who, in trying to mount a ladder, fell, suffered a severe nervous shock, and at once became extremely pallid. The pallor persisted, but on examination the blood was found entirely normal. This condition was believed to be due to disturbance of the vaso-motor system. Perhaps the same principle may apply to chorea and other nervous diseases.

The possibility of there being quantitative anemia in chorea is, of course, a mere theory, as there is no way by which the presence of quantitative anemia during life, or even after death, can be reliably determined. However, all the associated conditions and the experimental evidence point to the fact that quantitative anemia, if it ever exists, is very rare. There may sometimes be such a thing in progressive pernicious anemia. Dr. Stengel alluded to a case in which there was an extremely anemic and desiccated condition of the organs, in which the blood-vessels throughout the entire system were empty of blood, and in which the blood-count had been very low. Such cases are possibly instances of quantitative anemia, but in chorea the appearances are never of this character. There is not the same difficulty of obtaining blood from the finger; not the shriveled or shrunken condition of the tissues; not the apparent failure of the peripheral circulation present in cases displaying the external appearances of what would be expected of a quantitative anemia.

It is to be believed, therefore, that in cases of chorea there is only that amount of anemia which comes from some toxic or some general nervous disturbance. Chorea may be looked upon as a toxic condition, probably an infectious toxemia, and the existence of a moderate leukocytosis, as found in some cases, may or may not be taken as of some significance in this connection. Apart from the actual anemia, the spurious anemia or pseudo-anemia so often met with must not be ignored, and this for want of a better explanation may be ascribed to vaso-motor conditions. As many of the blood-examinations in cases of chorea are made in out-door clinics, and most of the patients are young persons, the examinations are in themselves unreliable to some extent. They are fallacious from the defects of the instruments used; and, furthermore, the excitation of the heart and of the circulation, consequent upon coming to the clinic, causes a peripheral corpuscular congestion (if such a term may be used), from the more vigorous action of the heart in driving blood into the periphery; or there may be the reverse condition due to cold, with contraction of the blood-vessels which raises the blood-count by causing venous congestion. Therefore, there is probably a higher degree of anemia than appears in the examination, but decided anemia is unquestionably very infrequent in chorea.

Dr. James Tyson said that the entire compatibility of pallor with a normal composition of the blood is evident when we think of the pallor that attends the syncopal attack, which furnishes for a short time all the external phenomena of anemia. It would be an interesting matter to determine the condition of the heart in these cases in which there is an appearance of anemia in association with chorea while the actual blood-count and hemoglobin-measurement fail to disclose the essential conditions of anemia. We have only to consider a permanence of the conditions that prevail during a fainting fit, of course in a milder degree than in an actual faint, and we have those of a chorea and yet a normal composition of the blood.

Dr. Wharton Sinkler asked for an expression of opinion from those who have had experience in the matter of blood-counting and estimation of hemoglobin as to how much the results of examinations depend on the individual.

Dr. Alfred Stengel said that he had made no study of the errors in blood-counting, but in a recent paper by Moyer (*Deutsches Archiv für Klinische Medicin*, Bd. lxvi) upon the errors of the hemometer of Fleischl, variations in results were attributed to fatigue, the personal equation, and the skill of the experimenter, as well as to defects in the instrument itself. In examinations made simultaneously by Dr. Stengel and a colleague some years ago with the Fleischl instrument a difference of ten per cent. was sometimes found. Gradually with increasing experience the error decreased.

Cosmetics of Castration.

The esthetically inclined editor of the *Medical Record* suggested some time ago that the unsightly void left by orcheotomy should be filled by a celluloid testicle for cosmetic reasons. This suggestion (from a recent report of a discussion before the Chicago Medico-Legal Society) would seem to have fallen on fruitful soil. Discussing the question of castration of criminals, Dr. Gertrude G. Wellington remarked that a man castrated for disease wished something to take the place of the organ removed that would give him the semblance of manhood. The only thing that could be found were some balls of celluloid, but they each contained a little bell. She would advise that in habitual criminals and sexual perverts after castration, these celluloid balls with their jingling bells be inserted, so that as the man went about among women of the world the bells would proclaim him incapacitated.—*Medical Standard.*

PERISCOPE.

Dr. Burton Ward declares there is one infallible symptom indicating whether one is sane or not. Let a person speak ever so rationally and act ever so sedately, if his or her thumbs remain inactive there is no doubt of insanity. Lunatics seldom make use of their thumbs when writing, drawing or saluting.—*Medical Age.*

A method for the early diagnosis of pregnancy that has proved to be of considerable utility is that known as Hegar's sign. It seldom fails even as early as the sixth or tenth week. It consists in a change in the body of the uterus which becomes spheroidal in shape and soft to the touch, while the neck retains its tenacity and shape until much later. The uterus is thus palpated as a round, yielding body mounted on the straight cylinder of the neck. In connection with the cessation of the menses, disturbances in the digestion, ptyalism, changes in the breasts, slaty appearance of the vagina and vulva in a primipara and varicose appearances around the external genital organs and on the lower limbs, the diagnosis of pregnancy is certain in the great majority of cases.

It has been decided by the Supreme Court of Illinois that the health authorities have no right to require physicians to report contagious diseases or births without remuneration. While the physician is morally bound to warn the community of danger when this can be done at a not unreasonable expenditure of time and labor, it is unjust to compel him to do so, and even to force him, under pain of imprisonment or a fine, to pay the postage on such notification. Of course, the State cannot afford to pay a large fee for such service, and neither would the physician demand it, but it would seem as though a compromise might be effected whereby the physician would receive twenty-five cents for each notification of a case of infectious disease or a birth. Such a plan is, or was, in existence in Connecticut, and we believe worked satisfactorily to both the State and its medical benefactors.—*New York Medical Record.*

Maternal impressions and heredity in their effect upon the unborn child have been discussed from all points of view, yet the following case, reported in the *Cincinnati Lancet Clinic* by Dr. W. H. Jones, of Henry, Ill., seems to have a bearing upon both points. The mother, an epileptic, nearly sixteen weeks before the expected termination of her pregnancy, fell upon a hot stove, severely burning the palm of her right hand so deeply that there was considerable contraction as a result of cicatrization. She was very much agitated and alarmed lest her child should be marked, worrying more about that than her own recovery. Her alarm gradually subsided, though it never entirely left her. At term she was delivered of a healthy boy, but the fingers of the right hand were only two-thirds the length of the fingers of the left hand, the first and second fingers being grown together for half their length, the two hands differing in size only in length of the fingers. The trouble didn't stop with the hand, as the four smaller toes of the left foot were grown together their whole length, and slightly shorter than the toes of the right foot. There is no history of anything of this kind in the mother's family, nor did she know of anything among the father's relatives until after the birth of this child. The father, who is a strong, hearty man, has two cousins, in a family of five children, that have webbed toes, these being all he knows of in a large family relation.

New-born infants on the island of St. Kilda have been more than decimated for more than a century by a mysterious malady popularly known as the "eight-day sickness." So recently as 1865 it was reported that of 125 children, the offspring of fourteen married couples living on the island in 1860, no less than eighty-four died within the first fourteen days of life, a mortality equivalent to 67.2 per cent. The prevalence of the disease, says the *Medical Press*, has been variously ascribed to sudden variations of temperature, defective ventilation, lack of warmth, mismanagement of the umbilical cord, dietetic peculiarities, and intermarriage. Attempts have been made at various times to discover the morbid agent and to circumscribe its ravages, but with such ill-success that the natives came to regard the disease as a special dispensation of Providence, not to be fought against under pain of heresy. Attention having been publicly called to this lamentable sacrifice of human life, a fresh attempt was made in 1892 under the guidance of Dr. G. A. Turner, of Glasgow, who, on the assumption of its being a germ disease gaining access through the umbilical cicatrix, suggested an iodoform dressing applied on well-defined scientific principles. In spite of the apathetic resistance of the mothers this treatment soon put a term to the "massacre of the innocents," and in 1894 he had the satisfaction of learning that not a single infant had succumbed since the treatment was begun. This result is the direct outcome of the recognition by bacteriologists of the microbial origin of all forms of tetanus, tetanus neonatorum among the number. The immunity thus acquired is the more significant, seeing that during the period 1883–93 the deaths under the head of "idiopathic tetanus" numbered 103 in Scotland, and 147 in England, a total of 250 lives sacrificed to an eminently preventible disease.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2069. SATURDAY, OCTOBER 31, 1896. VOL. LXXV—No. 18

ORIGINAL ARTICLES.

A NEW RING FOR USE IN INTESTINAL ANASTOMOSIS.

DANIEL B. D. BEAVER, M.D.,* READING, PA.

Of all the devices in use to hold together the cut ends of the bowel, in the operation of intestinal anastomosis, Murphy's button, Senn's decalcified bone plates, and Abbe's catgut rings are the best, and any of these may be more desirable in a given case than the others.

Murphy's button is the simplest, and more than any of them facilitates rapidity of work; but there are a few cases in which its use would seem to be attended with uncertainty. They are among those with old and extensive adhesions of the bowel, in which for various reasons it may not be possible or wise to sever all the adhesions, and in which consequently the lumen of the bowel may at some point be left narrowed after the operation. In such cases the button, after detachment from the point of operation, may become lodged in a narrowed segment of the bowel and form a permanent obstruction.

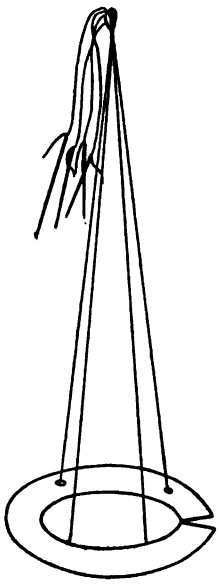
Senn's bone plates being digestible, are free from this objection, but they are expensive and must be obtained from the instrument maker, which cannot always be done at short notice. Of course it might be said that the surgeon should keep some on hand constantly, and thus be prepared for emergencies; but then, with the multitude of other little things to care for, we all are apt to overlook occasionally the need of things which may be used perhaps only once in a year.

Abbe's catgut rings, which he himself discarded in favor of plain suturing, answer this last requirement in so far that they can be made by the surgeon; but it cannot be done at short notice. They must be made of moistened gut, and when finished dried under pressure that their form may be retained. Then, in sterilizing them at the time of operation, if they, with the attached silk threads, are put into the antiseptic solution a little too soon, or delay occurs after they have been put in, they are apt to warp and curl out of shape. As the same distortion is apt to occur in the bowel, they are not adapted for use in end to end anastomosis, and furthermore it is difficult to make them in good ring form.

*Ophthalmic Surgeon and Gynecologist to St. Joseph's Hospital.

Under the stress of necessity I hit upon a ring which I think possesses all the advantages of Senn's bone plates and Abbe's catgut rings, without the objection I have made against Murphy's buttons.

Being called some distance from home, two years ago, to operate for fecal fis-



tula, resulting from strangulated hernia, I ordered a set of Murphy's buttons. The day for the operation had been fixed and the buttons came to hand late. Upon examining them it occurred to me that in case there would be extensive adhesions and matting together of the bowel, which it might not be expedient to undo entirely, there might be left bands which would constrict the bowel so as to prevent the passage downward of the button after its detachment from the seat of operation. Having on hand neither bone plates nor catgut rings, and time being short for making of the latter after Abbe's method, I constructed two sets of rings, using catgut and rubber tubing. Taking a piece of light rubber tubing with one-eighth inch calibre, three and one-quarter inches long, and a piece of chromicized number six catgut eighteen inches long, I pushed one end of the gut through the tube, then carried it around and passed it through again in the same direction, and so on until the tube was filled with strands of gut. Pulling upon the ends of the gut then until the ends of the tube were brought in apposition I had a complete ring. The ends of the gut were then cut off one-half inch from the tube and stuck into it in opposite directions, and the ends of the tube closely approximated. The result was a smooth elastic well-shaped ring, an inch in diameter. Now four small openings were cut into one side of the ring with a scissors, equal distances apart, and so placed that the break in the tubing was midway between two of them. Through these openings a medium-sized silk thread was passed on a cambric needle, around one side of the enclosed gut, through the tubing on the opposite side, back through the same puncture, around the other side of the gut, and out at the opening, the first point of entrance. The thread was now around the gut in the tube and both ends out at the opening made with the scissors. A firm slip knot was now made and slid back into the tube, while the thread was drawn tightly on the gut, care being taken to have the knot small enough to pass easily through the hole in the tube, so that it might not hold the tube after solution of the gut subsequent to the operation. The thread was then cut at a length of nine inches, and a knot put in the end to prevent the needle dropping off. The four threads having been passed in this way the ring was finished, and ready for use. In this case the button could fortunately be used and the rings were consequently not needed.

A year and a half later a case of fecal fistula, resulting from an operation for suspensio uteri by another person, came under my care. The fistula had existed four months, and various efforts had been made to heal it. I began the operation with the intention of using Murphy's button, but also got ready my rings.

Upon opening the abdomen a large mass of agglutinated bowel was found beneath the fistula, and the adhesions were so thick and vascular as to make their detachment slow and tedious work. After loosening about a foot of bowel above and below the opening, so as to give myself room for work, it seemed best on account of free bleeding and a very friable condition of the tissue, to leave the balance of the mass undisturb-

ed. As there were probably several feet more bowel held in it, I feared that a Murphy's button might not pass through, and hence used the rings.

The rings were placed in the bowel, and the threads carried through it about one-quarter inch from the edges. The two ends were then whipped together with a continuous silk suture, through all the coats, over about one-fourth of the circumference of the bowel, the middle of the line of suture being over the attachment of the mesentery. The threads on the rings were then drawn tightly and tied, and a line of continuous fine silk suture from side to side, run through the peritoneal coat over the whole line of approximation.

The patient who was fifty years old, recovered without an unfavorable symptom. The rubber tubes were not found in the stool, but as nearly six months have elapsed since the operation, it may be presumed that they have passed, or at least they can do no harm.

The fistula was so high in the jejunum that the discharges from it were entirely free from fecal odor, and that, as the patient expressed it, "there was hardly any use of drinking water because in a few minutes it would run out of the hole."

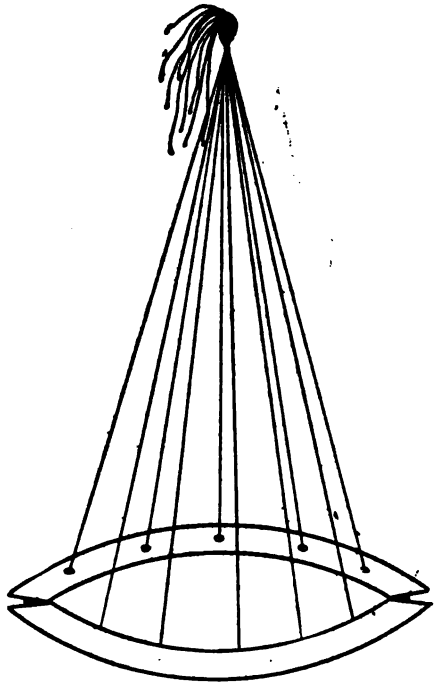
My object is not to present these rings as a substitute for Senn's bone plates when they are at hand or can be procured in good time, but in their absence in cases of emergency, and in lieu of Murphy's button when as in this case there is doubt as to whether it would find its way out of the bowel. Under these circumstances they are superior to anything I have ever seen offered for this purpose.

For use in lateral anastomosis with linear or elliptical opening an ellipse could easily be made by using two pieces of tubing of the desired length and pulling on the ends of the catgut until the ends of the tubing would be brought together in pairs. The silk threads could then be put half an inch apart and opposite each other in pairs, in the same way as into the rings. In position in the bowel, this would really be only a modification of the old quill suture as applied on other parts of the body—modified by the presence of the soluble catgut in the quill.

The advantages of the rings are, that they can be prepared in a few minutes by the surgeon; their trifling cost; the smooth and firm surface of the rubber tube which is to lie against the bowel; the protection which the tubing gives to the contained catgut by which its solution in the bowel is retarded; that after the catgut dissolves the rubber will drop away from the silk ligatures, not as a ring, but as a small straight piece of thin flexible tubing, which can hardly, under any conditions, be arrested in its downward passage.

Suturing of the ends of the bowel without mechanical support, either laterally, as Abbe has done since he put aside his rings, or end to end is not applicable to all cases.

It is necessary to have good healthy peritoneum at the seat of operation, which cannot always be obtained in cases of fistula in which extensive inflammation with agglutination of the bowel around the opening has occurred. If



the peritoneum has been involved in an inflammatory process, it disappears in the newly-formed tissue or becomes so fragile that it will not hold stitches sufficiently, unless two or three rows are made. Then the operation is certainly

tedious, and much slower than when rings are used, and the surgeon cannot leave his patient with the feeling of security which the rings afford. Of course this objection may be met by excising the denuded portion of bowel, but conservative surgery would certainly not permit such a sacrifice simply as an expression of preference of one method over others.

In the case here presented several inches of bowel were cut off to avoid making the anastomosis where nearly the whole circumference of the organ was bare of peritoneum, and yet at the place of election the Lembert sutures put around the rings gave way at several points, and required reinforcement by a second line. Without the firm support of the rings inside of the Lembert sutures, I would have been loth to drop the bowel into the abdomen, with those weak spots in the seam; but with them, I had no fear of the result. It would have been impossible in this case to have found, on the two feet of bowel which was extricated from the mass, two spaces four and a half inches long with sufficient healthy peritoneum to suture them and hold them together side by side.

The objections which have been urged against Senn's plates and other mechanic supports in lateral anastomosis, upon the ground that they obstruct peristalsis, seem to me to be ill founded. Lateral union of three or four inches of bowel will, regardless of how it has been produced, interfere with the peristaltic wave, but the interference caused by doubling the bowel upon itself and uniting the folds by six lines of suture, would certainly not be increased much by the addition of a flexible splint, and at the worst the increase would be only of temporary duration.

That lateral anastomosis will retard peristalsis was proved to me in an experimental operation I did upon a dog with Abbe's rings soon after he called attention to them. The animal got on comfortably for a year and a half. Then he was taken with symptoms of obstruction of the bowel, with which he died in the course of a week. Examination showed the blind end of the upper section of the bowel, which at the time of the operation was half an inch in length below the opening between the two ends, very much dilated and packed with a hard mass the size of a walnut, composed of hair and other solid matter, which extended above the edge of the opening. The opening had contracted from an original slit one and a half inches in length to an ellipse three-quarters of an inch long. This aperture was larger than necessary to permit the passage of any of the particles which made up the mass, and hence the collection was not due to obstruction, but to arrested peristalsis in the pocket below the opening and consequent deposit and accretion of material there. In this way the mass increased in size until it did obstruct the artificial opening.

The operation with these rings is decidedly easier to perform and can be done in much shorter time than any form of lateral operation. Should I be called upon to use them again, which would be done in any case in which a transverse operation could be performed, and for any reason Murphy's button might be thought unsuitable, I would modify the operation by putting three interrupted catgut sutures through the approximated ends, in the part not covered by the continued suture of one-quarter the circle opposite the mesentery, placing them between the threads on the rings. With rings one and one quarter inch in diameter, this would place a suture embracing the whole wall of the bowel for about every quarter inch of line, and this with the rings well adapted, and one row of Lembert's stitches around them would make a perfect union.

"Is it true that your father has made an assignment?" asked the agitated lover of his *fiancée*. "All his vast fortune is swept away," she sighed; "but you are left, Algy." "I should say I was left. Great Heavens!"—*Detroit Free Press.*

Miss Bluestock—I tell you, man is but an earth-born worm. Julie—You couldn't have been very lively as an early bird, my dear!—*Truth.*

"How did the critics treat Jingoll's music?" "Um, well, the kindest thing they said about it was that it was not original."—*Washington Star.*

PROFOUND TOXIC EFFECTS FROM THE DRINKING OF LARGE AMOUNTS OF STRONG COFFEE.*

J. T. RUGH, M.D.,† PHILADELPHIA.

On July 10, 1896, E. M. F., a traveling salesman, came to this city, arriving about seven P.M., and with great difficulty walked to his hotel, about one square from the depot. He then complained of great nervousness and involuntary contractions in the legs and arms on attempting to move these parts. On arriving at the hotel, he went to bed, feeling that if he could rest for a while his condition of nervous excitement would pass away. However, he continued to grow worse, and about 9.30 o'clock sent for me. After carefully questioning him, I elicited the following history:

He is thirty years of age, married and has one child. He has always enjoyed good health, though he has not been very strong. He is a graduate in medicine, although he has never engaged in practice. The family history is negative, except for the occurrence of epilepsy on the maternal side. During his youth, the patient had numerous attacks of *petit mal*, but never any distinct epileptic seizures. He has never had an attack similar to the present one, and this dates back three weeks, when he started on a tour to New York to place several large orders for his firm. During the course of his work, he was up until one or two o'clock in the morning, and after retiring would get but three or four hours of sleep. Upon waking, he would order a pot of strong black French-drip coffee sent to his room and would drink this before eating his breakfast, which was very light and simple in character. In the course of the day, he drank ten or twelve large cups of this kind of coffee and ate but little food. If he went to a saloon with a customer, he would order wine or stimulant for him, but coffee for himself, and by this free use of coffee, he was able to fight off the fatigue which naturally attended this mode of life. This course was kept up for three weeks preceding his coming to this city. He drank some liquor, but not enough to produce any appreciable effect, and he was never intoxicated at any time in his life—a fact that is very important in the differential diagnosis, for a number of his symptoms were those of beginning *mania a potu*.

His pulse was ninety-six and full, but weak; his respirations shallow and numbering twenty-four to the minute. The pupils were normal, the tongue slightly coated, the bowels regular, the skin moist but not flushed, and his expression was agitated with the fear of some impending danger. His muscles were in such a state of tension that upon the slightest movement of arms or legs, clonic spasms occurred, though none was present when he lay perfectly relaxed, which, however, his exceedingly nervous condition would not allow him to do. If he tried to sleep, he would be seized with hallucinations just before losing consciousness, imagining that disasters were about to overtake him and seeing all kinds and shapes of images and objects. Then he would start up with fright and find himself in the greatest nervous excitement. When he stood up, he could close his eyes or look at the ceiling without wavering. His knee-jerks were slightly exaggerated, but sensation was perfect.

The diagnosis of coffee-intoxication was based upon the history of excessive coffee-drinking for three weeks, the absence of liquor-drinking in quantities sufficient to produce constitutional effects, the nervous symptoms (spasms of muscles, hallucinations and extreme excitability), and the absence of an attack simulating *petit mal* in any way.

The indications for treatment were to clean out the bowels, to steady the heart by a stimulant, and to give an hypnotic that would quiet without increasing the

*Read before the Philadelphia County Medical Society, October 28, 1896.

†Instructor in Orthopedic Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine; Chief Clinical Assistant in the Nose and Throat Department of Jefferson Medical College Hospital, etc.

mental symptoms already present. For the first, I gave calomel, one-sixth grain every half-hour for eight doses, followed by a saline. For the heart, I gave caffein citrate, one grain every three hours, knowing that this would at the same time partly offset the withdrawal of the coffee from his system. Trional (ten grains every two hours for three doses) acted admirably as an hypnotic. I did not give morphin, which might have had a quicker effect, because of its tendency, in many cases, to produce mental disturbances without thoroughly relaxing or overcoming the nervous tension of the patient. Three hours after this treatment was instituted, the patient was resting more easily and asked for a glass of milk, which he took with a rel ish. He then went to sleep and awoke the next morning, after five or six hours of sleep, very much refreshed. I interdicted the use of coffee, gave a tonic of arsenic, strychnin and quinin, and directed the man to spend several weeks at the seashore, as his former condition of *petit mal* was very liable to become one of true epilepsy unless he raised his system to the best state of health and maintained it there. He went to the shore and two weeks later reported himself as very much improved and feeling better than he had for months.

I have seen two persons who would be mildly intoxicated by drinking a large cup of strong coffee, but have never seen any one affected as this patient was, nor have I been able to find reports of any similar case in the literature of the subject.

ALIENISM IN PRIVATE PRACTICE.*

SAMUEL A. HILL, M.D.,† WERNERSVILLE, PA.

Among those departments of medicine which have, with the increase of knowledge, grown beyond the realm of general practice, none has been by common consent more completely abandoned to the specialist than the subject of insanity. No member of the profession is more thoroughly set apart from the general body than is the alienist. This is doubtless because the general practitioner, as a rule, considers himself exempt from any responsibility in the matter and commits his patient to the asylum with much the same feeling that he leaves corns to the chiropodist, or carious teeth to the dentist.

In many a medical school the student does not hear two lectures a year on the subject, never sees a case, and is lucky if he learns before graduation that maniac is not synonymous with lunatic, that melancholia is a technical name for a definite condition, and that asylum inmates are not habitually either chained, caged, or clubbed. This indifference to an admittedly important subject rests, I believe, on two superstitions, one of which is erroneous and the other very far from justifying the conclusions drawn from it.

In the first place it may be said that alienism is a subject of unusual complexity—the study of a lifetime; that unless one's studies are to be supplemented by unusual clinical facilities it is scarcely possible to attain more than that little knowledge against which the proverb warns us. Now, these identical words might be urged in discouragement of any branch of the healing art. In no department has science attained finality; in no realm is the reward of special skill denied to concentration in purpose and persistence in practice. Yet it would be a lamentable state of affairs when such reasoning would content the average man to sit down in blissful ignorance of the pathology of eye and ear, of nose and throat, of skin, rectum, and genitalia, yet in any of these the patient will be better served by the specialist alone than in the department we are considering. The

* Read before Berks County Medical Society, October 13, 1896.

† First Assistant Physician State Asylum for the Chronic Insane of Pennsylvania, Wernersville, Pa.

woman doomed to sterility, the man alarmed by his ever-darkening vision, the youth suffering from urethral stricture will not long stand in doubt of what particular variety of aid he is in need. Still, the awful specter of insanity, patent though it be to even the casual observer as it poises the fatal blow, strikes yet from behind, and the victim falls all unknowingly.

Since the alienist cannot afford to be ignorant of any subject that interests the general practitioner, he has the right to expect the same intelligent aid that is given to the opthalmologist, the gynecologist, or the operating surgeon. Indeed, the rank and file of the profession habitually, and in the main satisfactorily, take it upon themselves to decide the most delicate and difficult question with which we have to do, namely, of what degree of irresponsibility justifies abridgement of a man's personal liberty.

The most experienced of asylum physicians, even after his personal observation of a case has been supplemented by days of watching by trained nurses, must, in some cases, give his opinion on this point with reservations; yet any man may be called upon to decide upon one or two brief interviews, drawing his case history from relatives who may be careless on the one side, or dishonest on the other, and who are necessarily in this regard ignorant and prejudiced. Under the circumstances let each one of us beware that our limitations are those of science and not of our own indifference.

When a question of fact arises in criminal proceedings, twelve chosen men must coincide to deprive one of his liberty, but when the agreement of two out of a numerous profession on a matter of opinion as to lunacy is enough to doom the subject to confinement, surely such opinions should not be lightly assumed.

A second consideration which deters the student from the consideration of mental diseases is an exaggerated idea of the hopelessness of these conditions. It is, I think, not too strong a statement that the laity do not contemplate the possibility of cure, while the profession accepts the report of favorable reports from insane hospitals with marked mental reservations; yet it is true that the hospital, not asylum physician, receiving an average number of cases, has more room for hope than if he received an equal number of consumptive, asthmatic, or cancerous patients. If we consider cases, not at the time of entering the hospital, but at the early period when they first might be diagnosed by a properly alert family physician, the prognosis improves immeasurably.

Assuming then that the physician should be qualified not only to detect insanity, but to discriminate varieties, to appreciate the causation and to conduct treatment in proper cases. What field should he find for the exercise of these powers? First, his just conception of the importance of heredity in the causation of insanity will inspire him with a sense of responsibility, not only to his contemporaries but to generations yet unborn.

It is not at present practicable to interfere in individual cases with the marriage of the physically unfit, the work to be done is to educate the public mind on this point. When superstition has in every age claimed her train of celibates, it is not too much to hope that science may some day claim hers.

We all recognize the importance of that moral and intellectual training of the elastic mind of infancy, and no woman worthy the name of mother neglects this for her own offspring. How much more should she insist that a human soul be not loaded with evil tendencies older and more deeply rooted than even the lessons of the nursery. The romantic girl marrying a drunkard to reform him, answering arguments with the reply that it is no one's business but her own, must be taught that the sins of the father shall be visited farther than the penitence of the mother and that she may be but a small minority of those whose interests are to be considered,

The man conscious of his own physical degeneracy should be taught that a human soul must not be denied what is freely conceded to a horse race or a hunting dog,—the right to a heritage of health—and when these principles are generally accepted to whom do they apply? Not only to those individuals

in whose lives insanity is, in common phrase, hereditary, but to all those families showing a distinct neurotic tendency. Epilepsy, dipsomania, chorea, some variations of hysteria and even neuralgia may in some instances denote degenerate tendency.

Habitual criminals and sexual perverts are not likely to be effected by public opinion until it crystallizes into legislative enactment. Happily we are coming to recognize more clearly that these are to be dealt with not so much with regard to the evil they have accomplished, as to that they are capable of. Each particular case is to be decided not in accordance with any arbitrary or inflexible rule, but by a careful weighing of good and evil tendencies by the competent man most familiar with them.

Much less important than the inheritance of the neurotic tendency, are the conditions of stress inevitable in civilized life, but wantonly exaggerated by pernicious mental hygiene. But even in this realm of lesser importance there is much to be done in the way of prophylaxis.

How many business men driving themselves to their utmost limit are braced up by their physicians with strychnia, coca, or kola; have their rebellious nerves soothed to contentment with abnormal conditions, by bromid, chloral or morphia; drug their brains to unnatural rest that they may again drive them to unnatural exertion; all in the face of the plainest warnings of impending breakdown! There is a mental hygiene not less definite and important than the physical. The brain no less than the muscle is entitled to its proportionate period of exercise, recreation and rest.

Among other causes of insanity, the various drug habits and unnatural sexual indulgence commonly receive all the attention they are entitled to. Perhaps more, since quite as often as not they are only early symptoms of disease rather than its cause. The various chronic diseases on which insanity often depends—syphilis, anemia, nephritis, diabetes, or derangements of liver, or intestine—receive their treatment independently of this consideration, yet, in any given case, they are not to be forgotten as a possible cause. Finally, we may mention a point which is much neglected, and on which a physician's advice should not be considered intrusive.

The deadly monotony of some lives, the *tedium vitæ* as exemplified in the daily routine of many farmers' wives, is a prolific source of material for our asylums. A veterinarian will seldom fail to comment on an overworked horse or an underfed cow for fear of losing his fee, and our profession ought to be able to rise at least to an equal height of disinterestedness. Passing from the field of prevention to that of cure we find there is still much to do. In the first place, the general practitioner should recognize that hospital treatment presents certain advantages of its own—the isolation of the patients, both from the cares of life on the one hand, and from the mistaken kindness of foolish friends on the other, the constant watchfulness of numerous attendants, together with the calm and scientific attitude of mind with which they regard the patient—can be but feebly imitated in a private house.

In certain cases these factors are almost indispensable in treatment; in other cases the circumstance of the patient will not warrant the great expenditure necessary to secure him proper attention in his own home. In all of these cases it is the duty of the family physician to combat the popular prejudice against the asylum, insisting that the question of hospital treatment shall be decided upon its merits exactly as it would be in any other special line.

When the practitioner's own best judgment leads him to decide against the hospital, he will treat the case in accordance with its indications, availing himself of consultation or of expert advice as he would in other cases. Time will not permit the consideration in detail of the conditions he should be prepared to meet, nor is it a subject for a single afternoon's study. At some future time I may speak of the special forms of insanity most likely to be encountered in private practice. Enough for the present, if I have made clear to your minds what is deeply impressed on my own, that there is a great field for noble effort, and that research along

this line will be to all of us richly repaid.

DISCUSSION.

DR. LANDIS.—The subject is an interesting one and it is true, as Dr. Hill says, that the general practitioner is apt to consider that mental alienism is outside of his sphere of duties. The general profession have not paid so much attention to the subject as they ought. In regard to the home treatment I regret that the doctor did not go into the subject more in detail. We all meet with cases presenting symptoms of incipient mental alienation, and they are very perplexing.

It is often difficult to decide as to the necessity for separating the patient from family and friends, and, as he tells us, two men assume a great responsibility in judging the case, especially when they are not familiar with the family history and many details small in themselves but having important bearing on the case.

I believe that in primary cases a certain amount of moral treatment by family and friends may be the best thing. In more serious or advanced cases better results may be attained by removing the patient from all previous environments and impressions which may be accessory to the persistence of the delusion.

DR. KEISER.—During the present century no department of medicine has been more thoroughly revolutionized than the treatment of insanity. No farther back than the earlier part of this century, hospitals for the insane were little better than dungeons for criminals. The lash, torture, manacles, and chains were recognized as important factors in the treatment. The crazier a man was, the crazier a device, apparently, was thought necessary to cure him.

All kinds of diabolic tortures were employed, even to keeping the patient submerged in water. In the early part of the century a ripple of reform made itself felt which later developed into a mighty wave which swept all over the civilized world. The pioneer in this reform in France was Pinel. It is recorded by him that one day while passing through a mad-house he chanced upon a patient chained to the wall, in which condition he had been kept for forty years. Pinel decided to liberate him, and approaching the prisoner acquainted him with his intention. To this the prisoner responded: "You are mocking me."

"No," said Pinel, "if you will promise to put on the clothes which I will provide and obey my commands I will liberate you." This the prisoner willingly acceded to. The chains were struck off, but it was fully fifteen minutes before the miserable wretch could stand upon his feet. So long had he been confined that the cramped limbs almost refused their office. When the man became able to stand he was conducted from the prison walls into the open air. With his face bathed in the glorious sunlight for the first time in two score years the only explanation he could be heard to utter was "How beautiful!" As he hobbled along so he continued to exclaim: "How beautiful!"

In 1815 the British Parliament appointed a committee to investigate the condition of the institutions where were confined the insane, and reported them in a deplorable condition. One English writer described their insane asylums as menageries of wild beasts where food was thrown in and straw raked out. I rejoice to-day that we have with us a member of our society who is connected with one of the model institutions of our country at Wernersville, Pa. I have visited that institution and can testify as to the evenness in its management, the general air of cleanliness, and absence of signs of restraint.

I must beg to differ from those who advocate the home treatment of mental alienation.

The proper place for most cases is in an asylum or hospital where proper attention can be given to the carrying out of those details which is impossible in a private house. Also it is well to remember that the feeling of odium which formerly attached to the necessary detention in such institutions has not the weight which it formerly had, and, owing to the manifest improvement in treatment, the feeling of distrust has vanished.

A generation ago it was common to see on the streets of almost every small town and hamlet numbers of people suffering with mild forms of insanity. Now it is the exception to see such cases. Too much leniency, however, is even now shown toward forms of insanity seemingly mild which may develop homicidal tendencies. There was an instance in this city a few months since.

A recently liberated patient stabbed three or four persons and was sentenced to the Eastern Penitentiary, from which institution he will probably come out crazier than ever. All cranks and all persons showing homicidal tendencies should be restrained. The treatment of criminals remains pretty much in the same condition as the former treatment of the insane, and there is much need of prison reform. Nothing is gained by degrading any man. Many a poor wretch has been started upon the downward road on account of the commission of some trivial offense, coupled with inability to pay a fine.

DR. BURR.—May I ask Dr. Hill what proportion of the whole number of admissions to the Wernersville Hospital are discharged cured?

DR. NORTHROP.—The major portion of those admitted to the Wernersville asylum are chronic cases of some years' standing. Many of them are admitted after having been previously treated in a hospital for acute cases, and favorable results are not so frequently anticipated.

DR. HILL (closing).—I must apologize for not following the subject more in detail, and at some time in the future shall take pleasure

in presenting a paper dealing more fully in the different forms and causes of insanity, taking up puerperal mania, epilepsy, paresis, etc.

In reply to Dr. Burr I would say that we do not see our cases early, some of them being of from one year to twenty years' duration before admission, so that improvement in many cases is not looked for.

CHLOROFORM ANESTHESIA DURING SLEEP.*

ISRAEL CLEAVER, M.D., READING, PA.

Four weeks ago I had an experience which possibly is rare to the profession at large, as it was to me, being the first in my career as a practitioner, but which I think very proper to present here for several reasons. First, that it may go on record as a contribution to forensic medicine, and next, because I believe it will be of interest to this society and provoke a discussion which may be of still added value.

A little boy, three years old, was brought to me by his mother to be relieved of the trouble commonly called tongue-tie, which it was alleged interfered much with his power of articulation. The little fellow would not speak to enable me to verify this fact, neither would he open his mouth by request or bribe, to let me examine the parts, and it was only after something of a struggle that I succeeded in getting a sufficient view to show that the *frenum linguæ* was abnormal and that snipping would most likely be advantageous.

But it was folly, in my judgment, to attempt even this trivial operation on this patient without anesthesia, and hence I made an appointment for next day, and called in my neighbor Dr. Rigg to assist, the mother declaring she could not help me the "*least bit.*" While waiting for Dr. Rigg the child fell asleep and was laid on a reclining chair where he remained until the doctor's arrival. Some effort on the part of his mother failing to awaken him, we agreed to administer chloroform while asleep and thus avoid a fierce struggle which I personally would have had some timidity in overcoming, with the treachery that chloroform sometimes betrays under such circumstances, and ether would of course only have invited this struggle by the irritant and suffocative effect it usually has at first on the respiratory tract.

Dr. Rigg very delicately administered the drug, the patient's pulse and respiration showing the usual changes of progressive narcosis, but without any apparent disturbance of slumber.

When the conjunctival reflex seemed abolished, an attempt was made to open the mouth, but resistance and some movement of the limbs were manifest. With a very little more chloroform, complete relaxation ensued, and the frenum was satisfactorily exposed and snipped. Normal sleep seemed to follow, the pupils being contracted.

I had forgotten to give instruction to have his meal prior to coming to my office, omitted, and some vomiting of food occurred, but after about ten minutes the little fellow awoke without showing any material surprise at his surroundings. He was also more amiable than the previous day, for at request he protruded his tongue almost to his chin, a feat his mother said he had never previously accomplished. A noticeable feature of his awakening act, was the almost sudden dilatation of his pupils a moment after opening his eyes, with a gradual return to normal in the course of a minute.

Dr. Rigg and myself exclaimed almost simultaneously substantially. "Well! chloroform *can* be given during sleep without awakening the sleeper." This expression denotes a certain mental impression common to each of us, that chloroform at least as a rule, would awaken a sleeper when administered by inhalation before complete narcosis ensued.

Another inference very naturally sug-

*Read before the Berks County Medical Society, October 13, 1896.

gested, is that I, as a graduate of thirty-three years, and Dr. Rigg with three years in the profession having a similar first impression, were very similarly taught and that, on some points at least, no change of opinion in what was taught had occurred, or is it possible that this is a question that the schools do not discuss? But there must be some reason why both of us seemed to have a like impression, or perhaps better, why we both were inclined to be surprised at our experience, and I venture the assertion that not a few of you here present, and not a few of the profession at large have at least hitherto possessed like uncertainty on the subject.

Permit me to offer an explanation so far as my personal relation is affected, and I regret that Dr. Rigg is not present to account for himself. But I suspect that all having the same questioning that I had, were more or less influenced by the same agent that I believe largely moulded my thought, and for this reason I aim to discuss the matter in its medico-legal bearing.

Having never before, to my recollection, seen an anesthetic administered during sleep, and certainly having never been called upon for such service of personal interest, I was never prompted to search medical literature, or question teachers of medicine about the subject until recently, and I find there is decided paucity of fact or speculation covering this point in medical works.

But that great educator of the world —the *public press*—is more prolific of statements in this line. How often do we read in the daily papers of burglaries committed in an inexplicable manner because the robbers roamed all over the house, tumbling everything topsy-turvy, even in the chamber where lay those sleeping while being robbed, and never conscious of the crime committed until they awoke in the morning. Then, because they cannot understand how it was possible they were not disturbed, and determined to account for it in some manner, they jump to the conclusion that they were under the influence of chloroform at the time. But I have never, to my recollection, seen any account of *proof* of such method given either by detectives who worked up the case, by the confession of convicted criminals, or the testimony of witnesses at the trial. All was supposition. Neither can I recall having read rebuttal evidence in such charges.

Again with equal frequency we read in the newspapers of rapes and highway robberies committed by the perpetrator's throwing a handkerchief saturated with some stifling liquid over the face of the victim, which produced *immediate unconsciousness*, during which the criminal accomplished his purpose without opposition. Here, as above, I do not recall of reacting evidence that proved either *pro* or *con* of the question, except in the late celebrated Pitezel case, where an eminent specialist, if I am correctly informed, denied in the witness-box the possibility of such criminal use of chloroform.

Nevertheless the laity are thus taught and believe in such possibility. But physicians, as a class, rely almost wholly upon fact and professional experience, many times multiplied, to establish a truth in medicine, and when allegations, theories, or opinions have not been thoroughly proven, we doctors are slow to accept them, and thus often call upon ourselves from the laity, and especially from charlatans and quacks, the charge of being bigoted and slow to learn. But true scientists know that only through such tedium can true science be evolved, and regard it a waste of valuable time to answer others who make such charge.

Thus in the absence, or at least because of the meagreness of proven statistics on the question at issue, I suspect the generality of our profession were, and are, in a state of skepticism as to the ability of inducing chloroform narcosis during physiological sleep, without arousing the sleeper.

With but limited sources of authority at command, and limited time for more research, I beg to submit what I have touching this question.

In Taylor's *Medical Jurisprudence*, Bell edition, 1892, it is stated that "Chloroform narcosis can without doubt be induced during sleep," referring for authority to Harvey, *Med. Times and Gazette*, 1880; Dolbeau, *Amer. Jour. of Hygiene*, Boston, June 17, 1884; and Elliot, *N. Y. Med. Record*, 1885, p. 29.

Woodman & Tidy, Ed. 1882, p. 457, under the question: "Can chloroform be

administered for improper purposes?" replies: "We know, however, that, comparatively, the insensibility from chloroform vapor is only slowly induced. It would be difficult, therefore, to administer chloroform forcibly and against the will, while, of course, the stories of immediate anesthesia produced by it are but idle fables."

Still, it might be administered to persons asleep without much difficulty (*Lancet*, Oct. 5, 1872, and Oct. 12, 1872), and this seems the only possible condition under which it could be conveniently used for improper purposes unless considerable force was employed to prevent the person from struggling, which, under ordinary circumstances, would be an almost insurmountable difficulty to its use.

In Tidy's Legal Medicine, Series 1884, Vol. III., p. 119, relative to "Can a female be violated unknowingly whilst under the action of narcotics and intoxicants?" this is said: "Chloral hydrate, opium, chloroform, ether, and narcotics have doubtless been used to facilitate criminal intercourse, but it is to be remembered that none of them (not even chloroform or ether) induce immediate insensibility. Hence, the stories of some dose or another having been administered, or a handkerchief forcibly held to the nose, followed by instant insensibility, are to be looked upon with gravest suspicion. Still, a rape has been committed under partial insensibility of ether (*Med. Gaz.*, Vol. XL., p. 865), and we can understand how even a very slight anesthesia might facilitate the commission of the crime." Attention is also called to the delusions at times co-incident with anesthesia, whereby rape might be (and has been) charged falsely.

Under illustrative cases are noted as follows:

No. 25.—The prosecutrix claimed *instant insensibility* by something held over her face when she was violated. Prisoner proved an alibi.

No. 26.—Charge, rape, against a dentist by a girl rendered *instantly* insensible by chloroform. It was proved that she knew all the time what was going on.

No. 27.—Charged, some liquid was given, which, in tasting, rendered the prosecutrix instantly insensible, when she was violated. Prisoner denied the charge.

Now, I submit that all the above references (being all I could command) do not establish an opinion beyond simple probabilities.

In conversation with members of the legal profession, I find them having different and even opposite views, though the majority give no credence to assertions of *instant insensibility* from any known anesthetic, and but few entertain the opinion that chloroform can be given to a sleeper without his being awakened.

The lay idea that chloroform, for criminal purposes, can be administered by instillation through some crevice, keyhole, or other aperture in a room, to the degree of profound anesthesia, is all humbug.

I have ransacked my library and those of some medical brethern for more information, but without avail, and therefore conclude that the undisputed facts having a bearing on this subject are, as before stated, meager. Confirmatory to the assertion in Taylor's *Medical Jurisprudence* — quoted above, I submit one case beyond question:

It may be argued that our patient being a child would sleep more profoundly than an adult. I am willing to believe that children as a rule sleep more soundly than many adults, and yet some adults are as difficult to awaken as any child. I have seen country market venders, men and women, returning home sit in their wagons asleep, allowing their horses to drive themselves, and not awaken to your loudest shout to give you part of the road. After several consecutive nights of loss of sleep, I, on one occasion, in a somnambulistic manner, arose to a call for obstetric service, promised to come, and returned to my bed, remembering nothing of my action, until next day when another practitioner, asked me with unmentionable expletives, why I didn't attend my cases when I promised.

The element of time necessary to produce anesthesia sufficient for clinical purposes, is not wholly unanswerable, because every one with somewhat of ex-

perience has seen patients, who seemed to have become unconscious to pinchings and other rather violent assaults on their bodies, within two minutes after commencement of the giving of chloroform and even ether.

Again in favor of the affirmative of this question, may be made the report of a certain writer, that by the application of cocaine to the nasal passages, the usual irritant effects of these anesthetics are abolished. The same thing attains in physiological sleep, as the many accidental asphyxias from illuminating gas indicate.

It therefore does seem to me that chloroform may be administered during normal sleep, to the degree of perfect anesthesia without arousing the sleeper, more frequently than we generally believe. At the same time, it would be well if our newspapers should discredit the popular thought of the manner in which criminal use of the drug is alleged as frequently as they publish the affirmative assertions and thus prompt would be blackmailers on the pretext of rape to cease causing the needless expense and public odium of court trials on such grounds.

DISCUSSION.

DR. WENGER.—I had an experience two weeks ago similar to Dr. Cleaver's, the case being that of a little boy with an abscess in the gluteal region. I proposed to call after office hours, at which time the father would be home from his work and could assist me. I found the child asleep, and proposed to give the anesthetic during sleep, which I did, giving in all not more than one or two teaspoonfuls of chloroform and guarding the administration according to the corneal reflex. I then opened the abscess and washed it out. The patient, after a few minutes, revived sufficiently to vomit, and then went to sleep and did not wake until morning.

DR. LONGAKER.—I have a similar experience to relate. Two years ago, in connection with Dr. Loose, I operated upon a little girl who had been run over by a trolley car. We went to the house at ten P.M., and found the child asleep. We gave chloroform and amputated two toes. The child awoke later and knew nothing about the operation.

DR. KEISER.—I was much interested in Dr. Cleaver's paper, but I think he is in error when he affirms that there is no teaching from the colleges on the subject. If I am not mistaken I was taught, during my novitiate at the University of Pennsylvania, that both chloroform and ether could be administered during sleep. I wish to enter protest in this connection against the practice of the use of chloroform in these cases. Within the last four years we have had two deaths from chloroform in this community.

DR. HOFFMAN.—Three months since, in the case of a child, I opened an abscess, washed, packed and dressed the cavity, and the patient did not wake until everything was over.

DR. BEAVER.—It never occurred to me that there was any doubt in the professional mind as regards the possibility of administering anesthetics during sleep. But I have always considered it dangerous to do so, especially when the patient to be operated upon is a stranger and the physican is not familiar with the condition of the heart and nervous system. I fail to see where the advantage comes in from a medical point of view. As it concerns forensic medicine, it is a matter of some interest. A great many people get into the habit of inhaling chloroform to produce sleep. I have lost one of my good friends in that way. I was called at three A.M. by his wife, and found him dead with a handkerchief lying under his head, which he had saturated with chloroform and placed there to produce sleep. It did produce sleep of the everlasting variety, and ever since that experience I have had the opinion that chloroform could be given to almost anyone during sleep.

DR. CLEAVER (*closing*).—I cannot help congratulating myself just a little bit that the discussion on my paper has brought out so many similar experiences from other men, as I think it is important that these cases should be put on record for the benefit of medical jurisprudence. Such instances may be of very great advantage in legal cases which may arise in the future.

During my service in the army I had occasion to use chloroform in a large number of cases under the most marked circumstances of disadvantage in the way of skilled assistance. In two years I never had a death, and the universal success with the agent may have made me careless as to its dangers. After my return to civil practice, I have seen several cases which presented dangerous symptoms, and the result has been to make me a coward in the use of chloroform.

With the most skillful use it is treacherous, and untimely results cannot be avoided. I will say, however, that in the case cited in my paper I had examined the heart, and if there was any excuse for my procedure, it was that the boy was an ill-governed child, would fight like a Turk, and it was questionable whether there would not have been as great risk in giving the drug under compulsion.

DR. BURR.—One element of danger in giving an anesthetic during sleep has not been referred to during the discussion. In many persons during sleep the vitality is at much lower ebb than during waking hours,

and it is possible that the depression produced by the vapor, added to this lower vitality, might induce a fatal termination. I recall a very sad case in point. A young woman, prominent in the highest ranks of society, some years since upon retiring to her room after the exhaustion of a social affair, administered to herself a moderate dose of chloral hydrate. She retired to rest and was found dead in her bed in the morning.

COMMUNICATIONS.

THE PREVENTION OF DEFORMITY IN FRACTURES OF THE EXTREMITIES.*

JOHN B. ROBERTS, M.D., PHILADELPHIA.

The deformity following broken bones is a frequent cause of litigation because the disability and unsightliness of the condition are readily apparent to the patient and his friends. For the same reason the surgeon is more often subject to unfavorable criticism than the physician, whose failure to do the best possible is often unknown to the public. So annoying is the sight of a deformed limb, and so great is the responsibility and anxiety assumed in taking professional care of a bad fracture that some practitioners feel glad to have such cases fall into the hands of other physicians or receive treatment at hospitals.

Mistaken diagnosis is a common cause of deformity after fracture. It is necessary not only to know that a fracture exists, but also to be acquainted with the situation and general character of the lines of separation if the surgeon is to obviate deformity. Many physicians fail in this important part of the treatment because they neglect to compare the injured with the uninjured limb; because they have forgotten the anatomical outlines of the region and do not take the trouble to look at the dry bones of the part while studying the injury; or because they fail to examine the patient under general anesthesia, which prevents pain and relaxes the muscles.

I have seen fractures overlooked because these precautions have been omitted. This is perhaps most often the cases in fractures near joints, where the normal mobility of the part and the irregular contour of the bones obscure the deformity and unnatural mobility due to the fracture. It has at times surprised me to find a peculiar curve in a bone of an injured limb existent also in the skeleton of the opposite side, proving that which I at first supposed was an abnormality due to fracture, to be a natural configuration peculiar to the patient. Every doctor should have in his office the parts of a human skeleton. At times nothing so clearly straightens out an obscure diagnosis as a moment's inspection of the bare bones. An articulated skeleton is not necessary and is rather expensive. The separated bones can be obtained through any medical student at very little cost from a dissecting-room. Finer and more costly preparations, but no better for study, can be bought from the surgical instrument makers.

General anesthesia is not employed as often as it should be in obscure injuries. A few inhalations of ether will relax the tightened muscles and permit the surgeon to freely manipulate the injured limb. The freedom from pain thus obtained is also desirable and prevents the unwise hurry which sometimes is the cause of erroneous treatment at the hands of skilful and careful medical men.

When it is impossible to make out the exact character of the fracture even under etherization, and there exists bony deformity which the surgeon is

* Read before Berks County Medical Society, July 14, 1896.

unable to correct, it may, in my opinion, be wise to make an aseptic incision down to the broken bone. This clears up the diagnosis, permits proper readjustment of the fragments, and only converts a closed fracture into an open one. With our present aseptic and antiseptic methods of operating, the incision adds little risk to the case, and may be of incalculable value in overcoming displacement and preventing permanent deformity and disability. If the practitioner having charge of the case is not familiar with aseptic surgery he should seek the aid of a modern surgeon familiar with aseptic details. Suppuration must, of course, be avoided, and energetic relief measures must be promptly instituted if septic contamination occur. The wound, even if it look well superficially, must be opened and drained if septic process begin in it.

The Roentgen ray now gives us an almost perfect method of discovering the lines of fracture without incision. It is not always available, unfortunately. When the diagnosis of fracture has been made, complete reduction of the fragments should be promptly accomplished. This is usually not a difficult task if the medical man is acquainted with the normal outline of the bone, compares the injured limb with the normal one, and uses the skeleton of the arm or leg as a test of accuracy. The swelling which sometimes obliterates the outlines may often be greatly diminished by elevating the limbs for a few minutes, rubbing it with the hands from the fingers or toes towards the body and encircling it for a few minutes with a rubber or flannel bandage firmly applied by spiral, or spiral and reverse turns. These manipulations urge the serum upwards toward the heart and lessen the distension of the subcutaneous cellular tissue. The bandage must not be allowed to remain on the limb for more than a few minutes, lest it cause gangrene. It usually cannot be applied unless the patient be etherized, as it gives pain.

In the "greenstick" fractures of childhood much force may be demanded to bring the bent bone into its normal shape. This should usually be done, even if the fracture is thereby made complete. The exception I make to this rule is in greenstick fractures of the clavicle. Complete fractures of the clavicle are often difficult to keep in perfect apposition. I therefore frequently desist from applying force sufficient to cause complete separation of the fragments in little children with greenstick fractures of this bone. I believe that the slight deformity, which is left after partial restitution of the normal outline by moderate force, is likely to be less conspicuous than that which may result if I completely separate the fragments and unavailingly try to keep the ends in perfect coaptation. If the child is very young the deviation in shape will probably diminish as the bone grows in length and thickness. If the child is nearly full-grown, I am much more apt to attempt complete reduction even if the bone does give way under the pressure of my fingers.

In impacted fractures considerable force is frequently needed to disentangle the interlocked ends. Unless this is accomplished, reduction is incomplete and deformity will persist. I think, at present, of but one instance in which it is unwise to attempt to separate the impacted fragments. Fractures of the neck of the femur in the aged have a characteristic indisposition to repair by bony union. Hence, the interlocked ends of the broken bone should not be pulled apart in the attempt to make a diagnosis or to obtain perfect restoration of the bony outline of the femoral neck. The deformity that will occur from the impaction is far less important than the disability certain to remain after treatment, if the fragments are separated and non-union occurs. If the bony entanglement is undisturbed, osseous or cartilaginous union becomes more probable. This advice to avoid meddlesome activity applies only to fractures of the femoral neck in the aged. Under other circumstances the impaction should be overcome and careful coaptation of the fragments sought.

The fractures which probably most often give rise to deformity is that of the lower end of the radius with backward displacement of the lower fragment. In this injury the lower fragment is very often impacted or caught upon the dorsal edge of the upper frag-

ment .It requires force suddenly applied with all the power of the surgeon's hands to drive the lower fragment forward into its proper relation with the shaft of the bone. This is neglected, I fear, by a great majority of practitioners. Deformity much greater than necessary and a protracted convalescence, with pain and stiffness of the fingers, are the consequences of this error. Immediate and thorough reduction will usually result, in a rapid cure, with little or no noticeable deformity. I have sometimes bent the lower end of the radius across my knee before I could disentangle the fragments and bring the lower one into place. This is not often necessary, unless the fracture is some days old when first subjected to treatment. Deformity, after unsuccessfully treated fractures, may be prevented or relieved by refracturing the callus which unites the fragments. This is occasionally necessary in instances where no treatment has been given. The bone is bent across the edge of a padded table or over the surgeon's knee, and after the band of union has been ruptured, is treated as a recent accidental fracture. This may be done with success at the expiration of even six months, since the seat of fracture remains weaker than the rest of the bone for a long time. There are various methods of applying the power of the surgeon who wishes to refracture such vicious union of a fracture; and the bone may be weakened or divided by drills, the osteotome or the saw; but these matters are foreign to the present discussion.

To obviate the occurrence of distortion, after reduction and coaptation have been accomplished, some sort of retention apparatus is required.

In fractures of the thigh I usually employ permanent traction, by means of a weight attached to the limb with adhesive plaster. This overcomes the tendency to overlapping. Any tendency to lateral displacement I antagonize by sand-bags laid along the sides of the thigh and legs, or by moulded splints. The moulded splints may be made of bookbinders' pasteboard, wet with water, and applied to the limb before becoming dry, or of gauze saturated with plaster of Paris water.

The best and probably the cheapest splints for fractures of the extremities are moulded gypsum splints. Plaster of Paris or gypsum is obtainable in every vicinity from storekeepers or druggists and costs but a few cents a pound. When added to water, it forms a creamy mixture, which, as everybody knows, soon "sets" on, hardens into the familiar plaster used for covering the inner walls of our houses. A few strips or layers of cheese-cloth or mosquito-netting, saturated with a moderately thick solution of plaster and laid upon the broken limb after the fracture has been set, soon stick together and hardens, forming a splint which actually fits every inequality of the limb's surface. The rigidity of the hardened gauze and plaster splints may be made as great as the surgeon pleases, by placing more layers of gauze saturated with the plaster mixture, upon the outside of the first layers, before the plaster in them has "set." If there is a tendency for any fragment to become displaced, the surgeon's finger pressed for a few minutes upon the outside of the splint, so as to hold the piece of bone in position, makes a permanent prominence on the inside of the splint, which acts as a substitute for his finger and does the same service as long as the splint is worn.

These moulded splints are held in place by a roller bandage, and are far better than any carved or manufactured splint ever made. They fit as a man's skin fits and need no padding to prevent bed-sores. One splint may be applied on each side of the limb, or a single splint may be made so as to encircle the whole or nearly the whole of its circumference. Neighboring joints may be covered, and therefore supported by the splint; or openings may be made in the splint where a wound needs frequent dressing or inspection.

A little common salt added to the plaster mixture, or the use of hot water for the mixture, hastens its setting; borax or cream of tartar makes it harden more slowly.

Such splints, when applied as a first dressing, should never be made to entirely encircle the limb, since the swelling incident to the fracture may make them too tight and cause much pain

and even gangrene. If the plaster dressing is applied so as to encircle the limb, it should be cut open on one side its entire length before tho surgeon leaves the patients.

To prevent late deformity the surgeon must insist that no strain be put upon the newly-formed callus until it is hard enough to bear the burden. This is particularly important in fractures of the femur and tibia, which in locomotion carry the entire weight of the patient's body. Oblique fractures of these bones are especially liable to bend at the seat of the union, if the patient walks on them too early, without proper artificial support. It often requires very little additional support, but that amount may be essential.

Quite recently I saw a gentleman with a deformed hand because he had insisted upon rowing shortly after being treated for fracture of a metacarpal bone. The callus was too soft, and he now has a curved bone instead of a normally straight one.

DISCUSSION.

DR. MURRAY WEIDMAN.—Physicians are frequently charged with causing deformity which is the result of the carelessness of the patient. In doubtful cases I should not hesitate to cut down and find out exactly what the condition is, especially as we have so many aseptic appliances for holding fractured ends together, such as catgut, ivory plates, silver wire, etc. In fractures and dislocations I reduce the dislocation first, and then the fracture. In green-stick fracture I reduce the deformity even if I have to break the bone.

One case is as simple to treat as the other. The method of surgery has changed in late years, and no surgeon should hesitate to know exactly what he has to deal with.

Physicians should be careful in promising perfect results in all cases of fracture, especially as any case may be compromised by the carelessness of the patient. A case in point: A patient of mine with fractured patella had ligamentous union one-fourth inch. Before sufficient time had ensued he went to call on a friend on a cold, sleety night, fell, and refractured the patella; result, union at four inches.

DR. ISRAEL CLEAVER.—I regret that Dr. Roberts did not allude to fracture of the patella. I should be glad to know his method of treating that unruly bone. I have never seen a case that did not result in deformity. I should also have been pleased to hear him discuss intracapsular fracture of the neck of the femur. There are often serious objections made by the laity, friends of the patient, etc., to our carrying out the surgical procedure recommended.

DR. D. B. D. BEAVER.—I would like to inquire of Dr. Roberts as to the frequency in which this operation of cutting down on the fractured bone is required. In my experience it has arisen seldom, and occasions are rare in which fracture cannot be diagnosed. Movement and shortening are always present.

After determining the presence of fracture, it seems to me that occasion seldom arises for cutting down on it; neither does it seem indispensable to know whether the fracture is horizontal or oblique. With proper extension in either case, may the normal length of the limb be preserved. There are few who would not object to the procedure.

I think it is important to adapt the dressing to the disposition of the patient. I don't use so much dressing as I did years ago, and I get better results. There is a disposition among the younger generation to bundle up the limbs too much. The result is that the patient is restless and uncomfortable, and more likely to get the fractured bones out of place.

DR. RHOADS.—In fracture of thigh I use extension, sand-bags, elevation of the foot of the bed, and weight. I use more plaster than any other dressing. Don't like felt or wooden splints. Canton flannel furnishes a good absorbent for the plaster. It is well to apply cosmoline to the limb before dressing, which prevents sticking of the plaster to the hair. I have had four or five cases of fracture of lower end of the radius, in which I have used the bond splint with no resultant deformity.

I am afraid of compound fracture; always have been. Have a case of compound fracture of clavicle in the hospital and don't like it a bit. There are the torn and bruised tissues at the bottom of the wound which differentiate the case from an ordinary simple incision. Those tissues may suppurate. It seems to me there would be trouble in getting good union without suppuration, especially in private families without hospital facilities.

DR. HOFFMAN.—I would like to consult Dr. Roberts' opinion in regard to the following case: While prison physician some years ago, a man was brought in with gun-shot wound of the thigh. The attendants failed to locate the bullet, and bandaged the limb. When I saw the patient the limb was enormously swollen and painful. I removed the bandage and found a suppurating area extending two inches away from the wound. After suppuration ceased, union of the fractured extremities took place, but there was for a period of one year and a half much swelling of the bone, which at this time is almost reduced to normal. What was the cause of this excessive enlargement of bone and reason of its persistence?

DR. BACHMAN.—Legal cases are continually arising where the physician is accused of malpractice in the treatment of fracture, and bad results always reflect upon the skill of the attendant, notwithstanding they are often the result of the carelessness of the patient.

There is a suit in court at the present time, in regard to which case I am positive that the resultant deformity is more due to the carelessness of the patient than lack of skill or carefulness of the attendant.

I had a case recently; one of those injuries of the shoulder-joint in which it is difficult to reach an accurate diagnosis, and in which there was possibility of dislocation complicating fracture. I determined to find out just what the trouble was. Upon careful examination by usual methods, I found crepitus present, but none of the usual signs of fracture of the anatomical neck. The case resolved itself into a fracture of the coracoid process.

DR. ROBERTS, closing, said:—In regard to the case of Dr. Hoffman's, I congratulate him upon the fortunate outcome of such a serious case. The thickening to which he refers, and which persisted for so long, probably resulted either from chronic osteitis or from the enclosure of a small piece of necrosed bone.

There is frequently a good deal of thickening in the site of an old fracture which is not bony but due to thickening of the periosteum and the fibrous coverings, and which disappears in time. Now-a-days, in selected cases I feel like opening up freely, as I feel practically sure of keeping the parts aseptic. With clean instruments, clean hands, and clean surroundings, I have no fear of making matters worse or complicating the case by free incision. In fact, though a compound fracture when split open may in appearance look worse, the good results have convinced me of the benefit to be obtained by such procedure. I am prepared and willing in future cases of simple fracture to open them if it seems advisable, though I admit that the necessity will seldom arise.

The trend of surgery is to hesitate no more toward making an open wound where it seems necessary in ordinary cases of simple fracture than in fractures of the patella, which are frequently so treated by many surgeons with good results. I myself have never found it necessary to thus operate on a patellar fracture.

The X-Rays are valuable in diagnosing fracture. Some time ago I experimented with the X-Rays in the following manner: I broke several forearms in various ways in the dissecting-room, then took skiographs, and the prints showed beautifully and clearly the line of fracture. The prints showed the line of fracture better than the negatives. The more I use plaster as a dressing the better I like it. I don't use the Bond splint for fracture of the lower end of the radius. I believe it to be a very bad splint for the purpose. If the fractures are properly reduced they don't need much support, and adhesive plaster seems to fill all needs. Occasionally I use the Lewis metal splint.

Dr. Beaver is right when he says too much dressing is used. We are apt to bundle things up too much. In regard to the kinds of fracture, where incision might seem to be indicated, I will instance the elbow-joint. Fractures in that region are frequently difficult, if not impossible, to reduce by ordinary methods. In some of these cases there may be a small piece of bone inverted in such a way that it is impossible to properly reduce the fracture until we can put our finger on it and use direct force to replace it. Such cases may be thoroughly relieved by aseptic incision and replacing the bone.

DR. ROBERTS demonstrated by chart the futility of undertaking to positively diagnose between an intracapsular and extracapsular fracture of the hip-joint, and at the same time asserted the uselessness of such a diagnostic point in the treatment. He also showed that a fracture of the neck of the femur may be partly within and partly without the capsule, depending upon the line of fracture. One reason for this is that the line of attachment of the capsular ligament is not the same on the anterior and posterior surfaces of the neck. Thus the fracture may be intracapsular in front and extracapsular behind the joint. The treatment in either case is the same. Dr. Roberts further said, upon inquiry, that he was not inclined, if it could be avoided, to open the knee-joint in fracture of the patella and recommended the encircling ligature which does not enter the joint, and therein differs from the Barker ligature. In easy cases adhesive plaster answers, but usually he uses a modification of Malgaigne's hooks.

A case of an infant dying of senile debility at the age of eight months is reported from St. Louis. The body is said to be that of an ordinary infant in good health. The head was extraordinary in many respects; in size it compared with that of an adult and each successive day accentuated its physical peculiarities. The thickness and texture of the hair gave the infant the appearance of an adult; and hair grew on its face. All the features developed with equal rapidity and the countenance assumed an expression of mature thought. At length the mouth became drawn, the features wrinkled, and rapid physical decay was followed by death.—*Am. Medico-Surg. Bulletin.*

"You men must really be careful and not run over people," said the president of the surface-car line to his motormen. They listened in respectful attention, and he continued, "Every person you kill is one less passenger to ride."—*Judge.*

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. BOX 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, OCTOBER 31, 1896.

EDITORIAL.

SPITTING IN PUBLIC PLACES.

The American people have two ubiquitous manifestations of vulgarity. One is the irresistible desire to leave an autograph wherever the sublimity of nature or the ingenuity of man attracts a crowd; the other is indiscriminate spitting, regardless of the desecration of natural beauty, or of the contamination of places where human beings must live and congregate.

We have used the word *spit*, rather than the supposedly more elegant one *expectorate*, because the ejected matter may consist of saliva, of mucus drawn backward from the nose or collected from the throat, of chyme eructated from the stomach, or of matter raised from the lungs and thus strictly *ex-pector-ated*.

Many children, and not a few grown people, play a sort of solitaire with the aid of saliva. This form of spitting is disgusting rather than harmful. A second class—from an economic standpoint—of spitting, is the deposition of mucus, eructated matter, tobacco juice, etc., where it will defile skirt-hems and foot-wear. Here, too, aside from the presence of a small amount of putrescible matter and bacteria already widely disseminated, we have to deal with a problem economic and sentimental

rather than sanitary. Moreover, if ladies choose to sweep up the filth of the street with long trains, it is their own lookout. Finally, we have true expectoration, coming from the deeper air-passages and pulmonary vesicles.

THE REPORTER believes that the danger from ubiquitous spitting is practically limited to the possibility of the transmission of tubercle bacilli. The diplococcus of pneumonia is not likely to be present in the sputum of one able to appear in public. It is questionable if the bacteria found in the saliva of healthy persons and usually considered pneumonic, are truly so. Even if they are, pneumonia depends so largely on exposure to cold and defects of the circulation, that it is one of the least contagious of the infectious diseases. We must recognize the possibility that bacteria of diphtheria, of some of the ulcerative forms of stomatitis, and even of typhoid and other deeply-seated diseases, may be communicated by dry sputum. There is little or no absolute proof of such communicability, but the large number of cases of contagious disease, of which the origin remains a mystery, and in which direct exposure is distinctly denied, allows some reliance on theoretical argument.

THE REPORTER is discussing this subject from the practical, rather than from the scientific standpoint. While it is desirable that highways, public buildings and conveyances of all kinds should be free from human filth, as well as from pathogenic bacteria, it is as yet impossible to enforce a rigid law against spitting. Reformers are always prone to forget that the refined, honest and conscientious members of society need no laws, and are affected by them only when their literal interpretation happens to be contrary to the spirit which led to their enactment. Thus a law must always be framed, not with reference to stating an ideal condition, but with regard to its practical applicability to persons who are dishonest, vulgar and immoral. A law against spitting must not aim higher than the average sentiment of the policeman, the police court judge, the janitor, conductor or care-taker, upon whom its enforcement must depend. It must not too much curtail the highly-prized "personal liberty" of the two-legged swine, against whom it is directed; otherwise popular sympathy will immediately be aroused to prevent the enforcement of the law, to secure its repeal and to prevent an attempt to substitute a milder measure. Neither can fine scientific discriminations be made. The law cannot say: "You may leave the scourings of your pharynx or a pool of tobacco juice where others are forced to tread, but you must not spit, if you are the seat of contagious disease." No! The law must be concise; it must apply impartially to the well and to the sick—to spitting of any kind, and it should also include the loathsome practices of the handkerchiefless stratum of society.

Some day we may hope for one simple prohibition applying to all bodily excretions, and protecting all public places from contamination, but the municipality cannot enforce nor consistently enact such an ordinance till it fulfills its own duty of furnishing freely, clean and convenient retiring places, at short distances, throughout its territory.

For the present, we believe that the best practical solution of the problem consists in an enactment against spitting in any inclosed place to which public access is possible. This would include not only public buildings, in the strict sense of the word, but railroad and street-cars, and other public conveyances, stores, offices, hotels, depots, theatres, churches and other congregating places. The act should not stop with providing a fine,

but should make arrest easy and simple, preferably by granting police powers to all citizens. It should also compel, under suitable penalty, the owners or managers of the places named to inforce the law. Street cars, in most cities, have long contained conspicuous notices forbidding spitting, but no efficient method of enforcement has been reached, nor does the municipality usually lend its support to the feeble efforts of the street-car companies. Conductors do not, and under present conditions cannot, well enforce such a regulation. They are already between the devil and the deep sea in endeavoring to carry out the arbitrary and often foolish rules of a heartless corporation without, at the same time, giving offense to passengers who are altogether too zealous in finding fault with these underpaid and overworked servants of the company and the public. Under the rules of a company, with which we happen to be familiar, any complaint to which the company pays attention at all, carries the certainty of punishment, since the conductor must lose a half day's time and wages in going to the office and answering the charges. The man who has no more regard for his fellow-creatures than to force them to walk through slimy puddles of sputum, is capable of taking the meanest kind of vengeance on the officials to whom we must look for the enforcement of the law against spitting. Neither is it pleasant for the mere private citizen to remind the spitter that he is not in a cattle-car, nor to suggest arrest, nor even to make the humblest possible plea for common decency.

Any ordinance, therefore, which deals with this crime against health and cleanliness, should give ample support to the complainant and should provide for the prompt and easy arrest of the offender and for efficient punishment. At the same time, the law should not destroy its own efficiency by forbidding spitting out-doors till a vast amount of work has been done in educating popular sentiment.

ABSTRACTS.

THE DISINFECTION OF ROOMS BY SULPHUROUS ACID GAS.*

One so frequently sees the common method of disinfecting rooms with sulphurous acid gas referred to in such terms as "inefficient," "unscientific," and "useless," that many health officers must have experienced doubts as to whether it was not their duty to discontinue it.

It is claimed mainly on bacteriological grounds that the process is inefficient; that the SO_2 generated by the combustion of one pound of sulphur in 1,000 cubic feet of space is not sufficient to kill the specific organisms of infectious disease, more especially when no measures are taken to charge the atmosphere with moisture.

I have collected the available evidence from six sanitary areas in and around London, and in every case sulphurous acid was the disinfectant employed. In order to make out the worst possible case against the method, suppose we adopt the view that all further cases of scarlet fever and diphtheria which occur, on the same premises, within fourteen days of fumigation of such premises, are to imperfect disinfection, and even then it will be found that the number is very small. There were, in all, 1,330 premises disinfected by the local authorities above referred to on

*Henry Kenwood, M.B., D.P.H., F.C.S., Medical Officer of Health, Stoke Newington, etc. *British Medical Journal.*

account of these two diseases, 409 in respect of diphtheria, and 921 in respect of scarlet fever; and altogether there were fifty-five cases of either scarlet fever or diphtheria, which would come into the above category. So that if we take this extreme and unjustifiable view, sulphurous acid disinfection broke down 4.1 times in every 100. This fact will serve to show that if disinfection is necessary at all—and there is no difference of opinion upon that point—then our common and official method is not "useless."

But there is the possibility of infection from the preceding case; there may be a persistence of the same source of infection which accounted for the disease in the original case; there is the chance of coincidence that No. 2 case may have contracted the same fever away from the premises in question within the period above specified; and even the return of clothes and bedding from the disinfecting station would all have to be excluded as possible causes. It is impossible, of course, to say to what extent the 4.1 per cent. of cases would be reduced if all these other possible causes of infection could be taken into account; but it may fairly be surmised that the reduction would appreciably reduce this already small figure.

It is, moreover, necessary to bear clearly in mind that what we ask of sulphurous acid is that it shall disinfect the walls, ceiling, floor, and bare surfaces in a room. No one contends that the method—any more than the French and German official methods—has sufficient penetrating power into bedding, clothing, carpets, curtains, etc. These can and should be removed for steam disinfection.

Our method consists of two stages: First, the charging of the atmosphere from six to eight hours with about 1 per cent. of sulphurous anhydrid gas, by means of burning one pound of sulphur to every 1,000 cubic feet of space in the room; secondly, the thorough aëration of the room.

The second stage is an essential part of the process in order to rid the room of SO_2. By some it has been argued that it is this thorough aëration that does the good, and not the preliminary sulphuring. It is easily demonstrable that the diphtheria bacillus would be at most attenuated by such aëration, and not killed.

Walter D. Severn has given me valuable collaboration in a few bacteriological experiments, in which we principally directed our attention to the Klebs-Lœffler bacillus of diphtheria, for the following reasons: It is concerned in the production of one of the diseases in which the disinfecting power of SO_2 is most commonly relied upon. It is easily cultivated, its cultures are unmistakable, and owing to the rapidity of growth over accidental impurities in the culture media employed, it is an extremely convenient organism to employ in experiments of the nature undertaken.

The room employed in these experiments was in my own house. It was nearly square in form, 8 feet 8 inches in height, and had a capacity of 2,004 cubic feet. Before each experiment the room was left at rest for some time, the inoculated swabs, etc., were then placed in position, and the room was then treated by the man who does the disinfecting work of the parish, precisely as if there had been a case of infectious illness in it. Each experiment comprised six different tests applied at the same time at three different levels in the room—that is, two at the level of the floor, two on a sideboard 3 feet 8 inches from the floor, and two on a bracket 6 feet 6 inches from the floor, and the experiment aimed solely at determining the effect produced by six to eight hours' exposure to an atmosphere containing SO_2 not exceeding 1 per cent.

The apparatus used was very simple, and consisted of (*a*) swabs. These were pieces of glass rod drawn out and fused into a ball at the drawn out end, with some cotton wool carefully twisted round the narrow part to a little over the diameter of the wide part of the glass. A second thick band of wool was well twisted round the rod lower down to serve as a plug for the protecting test tube used to cover the swab. The whole arrangement was sterilized in the oven, allowed to cool, and inoculated with a lively specimen of B. diphtheriæ as soon as possible before using, by gently passing the wool over the sloping surface of a serum culture. These swabs were taken into the room,

and the protecting tube removed, thus exposing the bacilli on the wool to the direct action of the SO_2. Afterwards the swab was well rubbed on the surface of a sterile serum tube, which was placed in the incubator at 33° to 35° C., to ascertain if any development of B. diphtheriæ took place. The swabs were made with supports formed by bending the free end of the glass rod into a triangular base.

(*b*) Lints. These were pieces of lint, 2 inches by 1 inch, placed in Petri dishes, two in each dish, which was then sterilized in the oven at 160° to 180° C. One piece of lint received with a sterilized platinum spatula needle, a streak of B. diphtheriæ, and the other a streak of either staphylococcus aureus or streptococcus pyogenes. The lid of the dish was removed in the room, and replaced after the fumigation. Then each piece of lint was rubbed on the surface of Lœffler's alkaline serum bouillon and hydrocele glycerine agar, and the tubes were placed in the incubator.

Each special test in each of the four series of experiments was duly controlled; thus for every two or three swabs used another similar swab was kept, after being infected for a similar period, and rubbed on to the surface of the nutritive medium at the same time as the swab which had been exposed to the SO_2. Similar checks were applied to the pieces of lint. The control tests showed active and typical growth in every case.

In the first series all three swabs and all three lints were sterile.

In the second series, a serum tube inoculated from one swab showed a late (inhibited) growth of the Klebs-Lœffler bacillus after three days, but no growth was obtained from the other two swabs or from the three lints.

In the third and fourth series no growth of B. diphtheriæ was obtained from any of the swabs or lints.

In one or two instances out of the twenty-four experiments made, growths of aërial impurities appeared in the culture media; but neither of the forms of staphylococci or streptococci grew in any of the experiments after disinfection. In the first three experiments Petri dishes of solidified serum inoculated on the surface with streaks of B. diphtheriæ were also employed as a further experiment. In all but two cases (one in each of the first two series) these, somewhat to our surprise, were also rendered sterile, and in the two instances referred to, the growth was markedly inhibited.

In Series 1 and 2, one tin of liquefied SO_2, alleged to contain twenty ounces, was employed in each case.

In Series 3, two such tubes were employed.

In Series 4, two sulphur candles were burnt, each containing one pound of sulphur.

After each of the four experiments, the room was entirely freed from the SO_2, and then exposed again to the disinfectant precisely as it had been in the experiment, and, after four hours, I entered the room with my mouth and nose protected by a handkerchief moistened with a solution of washing soda, and took a sample of the air towards the centre and at the level of half the height of the room.

The samples were hermetically sealed and removed to my laboratory, and the whole of the SO_2 was removed by means of a dilute solution of bromine in water, and the sulphuric acid was then precipitated as barium sulphate.

The precipitate was collected, washed, dried and weighed, and the original SO_2 calculated. Where one tube of liquefied SO_2, alleged to contain twenty ounces, was employed (Series 1 and 2), the sample of air, taken after four hours, furnished: Experiment 1, 0.26 per cent. SO_2; experiment 2, 0.25 per cent. SO_2.

Where two tubes of liquefied SO_2, each alleged to contain twenty ounces, were used (Series 3), the air showed 0.50 per cent. SO_2. Where two sulphur candles, each alleged to contain one pound of sulphur, were employed (Series 4), the sample furnished 0.88 per cent. SO_2.

Therefore, where the bacillus diphtheriæ was not killed, it was very markedly inhibited, even where the SO_2 did not much exceed one-quarter per cent., and the bacillus was killed where the SO_2 exceeded one-half per cent., the above figures have sole reference to the SO_2 in the air in the centre of the room at a height of four feet, and after the lapse of four hours.

I believe that in practice it is wisest

to retain some method which, like our official one, is simple, cannot be skimped, necessitate the exposure of the room to abundance of fresh air, and the actual disuse of the room for many hours. Disinfection by chlorine, formaldehyde, and vaporized carbolic are good, and would also meet requirements, and there is evidence that the first two are more efficient than SO_2; but is one justified by facts in recommending any change at all?

THE ADVANTAGES AND DISADVANTAGES OF THE USE OF STERILIZED MILK FOR INFANT FEEDING.*

The term sterilized, as applied to milk, has been very vaguely used during the last few years. At first no doubt it was restricted in its application to milk, which had been so treated as to be rendered germ free. Now, however, it is generally understood to refer to that which has been kept for some minutes at the temperature of boiling water. It is in this latter sense that I propose to use the expression to render milk approximately germ free. Carbonate of soda, bicarbonate of soda, boracic acid, borax, salicylic acid, quick-lime, hydrogen peroxide, carbonic acid, and formalin have been used. The necessarily small quantities which can be used of the substances have been proved, on the one hand, to be quite ineffectual for the destruction of germs, and on the other they are most injurious to the consumer when taken for a considerable period. The use of compressed oxygen and the passing of an electrical current through the milk have been suggested as sterilizing agents, but nothing practical has come out of these proposals.

Dr. Seibert, of New York, states as the result of a prolonged investigation, that if milk be filtered through half an inch of compressed absorbent cotton, seven-eighths of the micro-organisms contained in it will be removed, and that a second filtration will further reduce the number to one-twentieth. One quart of milk may thus be filtered in fifteen minutes; however, Lewi found that the souring of milk was not at all retarded by this procedure. Of course efficient filtration, as through a Chamberland filter, is out of the question with milk. Cold is of value for preserving milk for a limited period, but is of no use for the purpose of rendering it germ free.

The various modes of rendering milk approximately sterile by means of heat are therefore, the only ones which are of any practical importance. They may be sub-divided into:

(*a*) *Pasteurization*, where the temperature of the milk is not raised above 158° F.; and

(*b*) *Sterilization*, where the temperature is raised to 212° F.

Various forms of apparatus have been invented for the pasteurization of milk in large quantities. These are chiefly of two types; in the one, such as Thiel recommends, the milk is made to flow over a heated corrugated surface; and in the other, the vessels containing the milk are surrounded by water, the temperature of which can be kept at a definite point for a definite period. The first kind of apparatus is almost useless, for, firstly, in order to render it certain that the whole of the milk is raised to a sufficiently high temperature to sterilize it, the metal must be so greatly heated, that the milk which comes into direct contact with it will be scorched; and secondly, the time of exposure to the temperature of 155° is far too short to be effectual. This has been proved by Geuns, who found that milk which had been treated in Thiel's apparatus still contained from 5,000 to 9,000 bacteria in every ten drops. If pasteurization is to be effectual the milk must not only be heated up to a temperature of 155° F., but must be maintained at this temperature for twenty minutes. Bitter has invented an apparatus for efficient pasteurization, in which the milk is kept at a temperature of from 158-160° for thirty minutes, after which it is rapidly cooled. He gives the following results of the bacteriological examination of five samples, before and after pasteuri-

*H. J. Campbell, M.D., in the *British Medical Journal.*

zation: No. 1, before pasteurization, had an average of 102,600 bacteria in every ten drops, but only two to three after the process was completed; No. 2 had 251,600 before, and thirty to forty after; No. 3 had 25,000 before, and three to five after; No. 4 had 37,500 before and two to five after; whilst No. 5 had 94,000 before, and only two after. These figures have been confirmed by Freudenreich of Berne.

A very simple apparatus is sufficient for household use, the essential parts being: An easily cleansed bottle with a cotton wool plug, to contain the milk; a metal vessel provided with a wire stand at the bottom to support the bottle; and a thermometer, the stem of which passes through the lid of the outer vessel so that the temperature can be ascertained without the cover being removed. The temperature of the water should be slowly raised to 160° F., after which the vessel should be taken off the fire, and should be kept for thirty minutes under a thick cosy. At the end of this period the bottle should be taken out of the water, and put in a cool place so that the temperature of the milk may be lowered as rapidly as possible.

A large number of special appliances have been invented for the sterilization of milk. They may be divided into two classes: Those that are arranged for dealing with the milk in bulk, and those that are adapted for dealing with small quantities of it in bottles. As regards the former the most effective, and at the same time the most economical forms of apparatus are those in which the milk is treated with steam under pressure, the storage vessels being filled and closed in such a way as to make it impossible for any micro-organisms to get in during the process.

In the second type of sterilizer, the milk is placed in feeding bottles, which are immersed, as in Soxhlet's apparatus, in water, or around which steam is passed, as in the apparatus used in the Walker-Gordon milk laboratory of Boston. The disadvantage of this method is, that the cream tends to rise and to adhere to the necks of the bottles, so that a certain proportion of it is left behind after the child has finished its meal.

The advantages of raw milk are the following; the fat contained in it is in a more perfectly emulsified condition, it is more pleasant to the taste, the free and combined carbonic acid (7.5 per cent. and 2.2 per cent. respectively) not having been driven off, the phosphorous and lime salts remain in their normal condition, and, finally, its casein is more digestible than that of milk, which has been heated to 212° F. The great disadvantage of the use of raw milk, in England is, that with our present system of control and management of dairies, it is impossible to insure against the milk becoming contaminated with large numbers of micro-organisms, some of which may be pathogenic. If we had dairies, such as those of the Milk Supply Company of Copenhagen, and the Walker-Gordon milk laboratories of Boston, where direct and efficient control is exercised, it would be worth while to dwell upon the very marked advantages possessed by raw milk for the feeding of infants. In order to render its use safe, however, the cow must be treated with the same care and consideration as a human wet nurse.

Foul milk cannot be rendered wholesome by any amount of household boiling. It is very much easier to sterilize clean milk at a comparatively low temperature than milk which swarms with bacteria at a much higher one. Unfortunately it is necessary for us to consider not only the best means of dealing with milk such as we have it, but with milk such as we get it. This in most cases is rich in bacteria.

Undoubtedly the chief advantage of sterilizing milk is, that all the pathogenic, the majority of the non-pathogenic, and the adult forms of even those bacteria which have especially resistent spores, are thereby destroyed. In my opinion, this advantage far outweighs any disadvantages that there may be to the process. However, prepare cow's milk as we may, we cannot shut our eyes to the fact that it is out of the question to anticipate such good results in the majority of cases, from artificial as from breast feeding. The fat of cow's milk is quite different in composition from that of human milk. Thus we see that human milk differs from cow's milk, not only in the percentage quantity of its ingredients, but also in the molecular composi-

tion of these ingredients; hence we must not blame the process of sterilization for defects which are inherent in the cow's milk itself.

Undoubtedly the chief objection to sterilized milk is, that its casein is less digestible than that of unsterilized milk. In the artificial digestion of diluted milk rich in cream, I found that the casein of the unsterilized milk was digested in about half the time required by the casein of the sterilized milk. Further, there is a difference in the action of rennet, the coagulum in the one case being quite different from that in the other. This is partly due to the precipitation of calcium salts, but not entirely, for if we add hydrochloric acid, and thus re-dissolve these salts, we find that the coagula are still different. This relative indigestibility of the casein of sterilized milk is of the greatest importance, for in most cases it renders it necessary that the intervals between the meals should be longer for infants fed upon sterilized than upon unsterilized milk. Indeed, where there is a certain amount of gastric atony, the infant may be unable to take a sufficient quantity of milk for the purpose of nourishment, and thus may undergo a process of slow starvation.

The experience of cases such as these has given rise to the belief that rickets, and especially scurvy rickets, may be induced by the use of sterilized milk. This is true, I believe, but the cause of these diseases is that the child has been receiving insufficient food, and especially an insufficiency of carbo-hydrates and fats, rather than that there is a "subtle change" in the milk as the result of sterilization. Randolph, of Philadelphia, conducted a series of experiments upon adults, and found that the raw milk had in every case been digested more rapidly than the boiled.

A second, though less important objection, is the fact that the taste and smell of the milk are altered, and although this rarely matters in the case of young infants, it sometimes causes difficulty with older children.

Another disadvantage is, that the greater part of the carbonic acid gas in the milk is driven off, thus inducing an alteration in the composition of the phosphates, and a precipitation of calcium and magnesium carbonates.

Fourthly, some of the fat globules coalesce, the result being that the emulsification is not quite so perfect as in raw milk.

Fifthly, the lact-albumen is coagulated and gives rise to the albuminous skin which forms upon the surface as the milk cools, even if it has not been boiled, and contains entangled in its meshes a considerable quantity of fat, thus rendering the milk correspondingly poor in this most important ingredient.

Sixthly, any leucocytes that may be present in the milk are killed during sterilization; however, as at present we know so little about the *rôle* of leucocytes in milk, we are unable to state whether this is a disadvantage or not.

On the following grounds pasteurized milk is to be preferred to sterilized milk:

First, the digestibility of the casein is only diminished to a slight extent.

Secondly, the taste and smell of the milk are not permanently altered.

Thirdly, less carbon dioxide is driven off.

Fourthly, the condition of the fat remains practically unchanged.

Fifthly, the lact-albumen is not coagulated.

Of late, great attention has been devoted to the subject of the adaptation of cow's milk to the needs of the human infant. I would like to draw attention to the excellent results which have been obtained by the use of Dr. Gaertner's fat milk in various parts of Austria and Germany. Dr. Pollak, in Vienna, writes me that its use has been attended with the best results in cases of rickets. Its mode of preparation is as follows: Dilute the milk with an equal quantity of sterile water in order to halve the amount of casein; centrifugalize the mixture at a temperature of 35° C., and allow the creamy portion of the milk to flow direct into a cooling chamber, where its temperature is reduced to 15° C. The fat milk so obtained contains only half the proteids and milk sugar, but all but 2 per cent. of the fat of the original milk. It is then sterilized in a Popp-Becker sterilizer at a temperature of 102° C., after which it is rapidly cooled down to a temperature of 18° C.; 35 grammes of milk sugar should be added to each litre of the fat milk.

Gaertner's fat milk appears to be as well adapted to the needs of infants as Frankland's humanized milk, whilst its mode of preparation is much simpler. For household purposes the method recommended by Dr. Ashby is both simple and effective. The fresh, clean milk is allowed to stand in the 30 oz. sterilized bottle of a pasteurizing apparatus for two hours, during which time the greater part of the cream rises to the surface; the lower half is then syphoned off and replaced by boiled water, in which an apothecary's ounce of milk sugar has been dissolved. In my opinion in most cases it is better to replace the milk, which has been syphoned off, by thin barley water. Experimentally, I have found that, when barley water is mixed with milk, the curd formed during artificial digestion is more granular than that formed in the mixture of milk and plain water. I have had the barley water of the consistency that I recommended analyzed; the total solid matters only amount to 1.23 per cent., being made up of 0.117 per cent. albuminoids, 1.078 starch dextrin, etc., and 0.035 per cent. of mineral matters. The small quantity of starch is of no great importance, especially when we take into account the fact recently pointed out by Heubner and Zweifel, namely, that the salivary glands of the infant are functional at a much earlier age than was previously thought. It is well, also, as Jacobi has suggested, to add a small quantity of common salt to the prepared milk, as there is less of this important food constituent in cow's than in human milk; in the former only 13.5 per cent. of the ash consists of chlorine, whilst in the latter the proportion is 20.11 per cent.

The plan adopted in the Walker-Gordon and other milk laboratories in America of modifying the milk according to the physician's prescription, is one that might be followed with great advantage in certain cases.

Finally, I would like to point out that one source of great danger in the artificial feeding of infants is the idea so firmly rooted in the public mind that the strength of the milk given should be rapidly increased. Analyses of human milk at different periods of lactation show that its percentage composition does not vary to any great extent, the chief difference being in the quantity secreted. The percentage strength of the cow's milk should only be increased with the greatest caution.

LIBRARY TABLE.

AN AMERICAN TEXT-BOOK OF APPLIED THERAPEUTICS. Edited by J. C. Wilson, M.D., Professor of Practice and Clinical Medicine in Jefferson Medical College, assisted by Dr. A. A. Eshner, Professor of Clinical Medicine at the Philadelphia Polyclinic. Cloth imperial; 8vo.; pp. 1326. Price, by subscription only, $7. W. B. Saunders, Philadelphia.

This volume is not a treatise on etiology and pathology, except incidentally, seeming to aim at a short cut to treatment when the disease is once diagnosed. From this point of view it is better adapted to the needs of that class of doctors who are content to be guided by principles and theories established by others rather than those who are original in their modes of thought and work. Separate articles appear upon general therapeutic measures, but matters of surgical interest have been omitted. The arrangement is based upon pathologic classification, and most of the authors are American, the only exceptions being Rake, who treats of Leprosy, and Laveran on Malarial Fevers, each of them the great authority on their subjects.

The volume is rather cumbersome for the use of the student; too didactic in style, and not sufficiently elementary, and viewed from the standpoint of the general practitioner, is incomplete in some respects. It is open to the general objections which apply to all books of this class which appear in the form of compilations of different authors' work, but such writers as Starr, Stewart, Henry, Wilson, Wharton Sinkler, Osler, Dock, Eshner, Parvin, and Stelwagon are above criticism in the special lines in which they have built up their reputations. The volume will doubtless com-

mand a ready sale, and the careful editing displayed on each page will prove not its least attraction.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In twenty volumes. Volume V., "Diseases of the Skin." New York: William Wood & Company, 1896.

Six volumes of this encyclopedic work have now been presented to the profession, and anyone taking even a hasty glance at these cannot but be favorably impressed with the superior quality of the literature. The present volume under review is the fifth, which was forced to appear out of its turn on account of unavoidable delay in the manuscript; but its subscribers will be quite compensated for the waiting by the excellence of the product.

Among the contributors to this volume we find such names as Brocq and Leloir, of France; Crocker, of London; and Kaposi, of Vienna; besides such American specialists as Hyde, of Chicago; Van Harlingen, of Philadelphia; Bulkley, of New York; and Montgomery, of San Francisco.

It is impossible, in the space allotted, to do ample justice to the various contributors or to the work as a whole, but a few words about some of the articles may serve as an exponent to the others.

L. Duncan Bulkley introduces a most interesting section upon the "Parasitic Diseases." These he divides into three classes—diseases caused by animal parasites, those caused by vegetable parasites, and lastly, those produced by micro-organisms of uncertain nature. We note here that psoriasis is included among affections supposed to be caused by cocci, but not definitely so proven. The mulberry coccus is presumed to be the etiological factor in its production. This same disease is amplified by Radcliffe Crocker, of London, in his chapter on "Squamous Affections." He lays considerable stress upon the curative effect of salicylate of sodium or salicin in the treatment of this obstinate disease.

L. Brocq deals with "Papular Affections," in which he includes the various lichens and prurigo. His style is to the point and authoritative, and is worthy of special mention.

In addition to the names already enumerated, Allen and Whitehouse, of New York, and Bowen, of Boston, have all done good work in helping to make this "Twentieth Century Practice" an essential part of the progressive physician's library. W. H. P.

A SYSTEM OF SURGERY. By American authors. Edited by Frederic S. Dennis, M.D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, New York; President of the American Surgical Association, etc., assisted by John S. Billings, M.D., LL.D., D.C.L., Deputy Surgeon-General, U. S. A., Complete in four imperial 800 volumes, pp. 3652, with index, 1585 engravings and 45 full-page plates. Price, per volume, $6.00 in cloth; $7.00 in leather; $8.50 in half morocco, gilt back and top. For sale by subscription. Lea Brothers & Co., Philadelphia.

Encyclopedic medical literature is not always the best of its kind. It may be compiled of the writings of representative men in the profession, but no individual of them has his reputation at stake, as would be the case in a work strictly original with himself and published over his own signature. Hence there is apt to be in "systems" of any kind, more or less careless writing, or, at least, less pride than in individual productions. The publication under review seems to possess fewer of the faults of its kind than is usual, and the work is a handsome and quite practical exposition of surgery of to-day, brought up to date in every particular, even the recent discovery of the power of the Roentgen rays being dealt with in an able article by Dr. W. W. Keen, of Jefferson Medical College. A point of considerable value, and one that establishes the fact that the publication has had every opportunity to be abreast of the times in every respect, is the short time occupied in its publication. The last volume in this system appeared in a little over a year from the time of the appearance of the first, and hence the subject matter is new and fresh. Even had any one surgeon been capable of producing a work of this scope, it would have taken years to have gotten it into shape, and in that time much of it would necessarily have become behind the times.

It will be remembered that this work was the particular basis of a recent dispute between medical writers of England and the Continent and those of the United States, the former alleging rank plagiarism on the part of the contributors to the work, and that, hence,

its sale was prohibited in Great Britain. Many of the articles certainly show a great familiarity with foreign authors, but whether of a sufficient degree to justify the accusation of literary piracy would be a hard matter to say, in view of the standing—professional and otherwise—of those concerned. There must of a surety be brains enough on this side of the big pool to write essays of worth in all branches of medicine and surgery without descending to such crude methods of absorption and assimilation as this would suggest. There has not, to our knowledge, appeared a specific statement as to just wherein the "steal" was to be located, but we understand from some of our English contemporaries that the publishers claim that the plagiarism, if any, is limited to the use of a few illustrations from English works which were redrawn and reengraved for use in the work.

Still, laying all these points aside, the book undoubtedly possesses great merit. The illustrations, whether borrowed or original, are profuse and fine, and the paper and print are of the best. Perhaps some of the subjects might have been treated on a somewhat lower plane to meet the needs of the average student and physician, as not all are so thoroughly familiar with elementary detail in each subject as those who have made them matters of special study.

Among the more noteworthy articles are those on General Bacteriology of Surgical Infections, by Professor Welch, of Johns-Hopkins; Professor Senn, on Diseases of the Bones; Professor J. William White, University of Pennsylvania, on Surgery of the Genito-Urinary System; and Professor McBurney on Appendicitis. These are all authoritative on their special subjects, and other articles are of equal value.

A MANUAL OF OBSTETRICS. By W. A. Newman Dorland, Assistant Demonstrator of Obstetrics, University of Pennsylvania; Instructor of Gynecology, Philadelphia Polyclinic. Fully illustrated; cloth; pp. 760. Price, $2.50 net. W. B. Saunders, Philadelphia.

The design of this manual of obstetrics is admirable, and the author's treatment of his subject is exhaustive. The work has also the advantage of being obtainable at any book store, and not being one of those volumes "to be sold by subscription only." The style is at times a trifle prolix and pedantic, but this is excusable, since it is only those who *facile princeps* who can descend to the utmost simplicity without a lurking feeling that the world will suspect that they do not know how to properly place polysyllabic phrases. The fault is one that will mend with age and experience, and in no way interferes with the usefulness of the work. The mechanical work of the volume, like almost all that are issued from the press of this publisher, is excellent, and the manual may be commended not only to the student, but would prove of value to the busy general practitioner desiring a full, yet compact, work of reference.

A MANUAL OF ANATOMY. By Irving S. Haynes, Ph.B., M.D., Adjunct Professor of Anatomy, New York University. Fully illustrated; cloth; pp. 680. Price, $2.50 net. W. B. Saunders, Philadelphia.

Possibly a better title for this volume would have been "A Manual of Dissection," since it deals only with such structures as are studied in the dissecting-room, omitting consideration of the eye and ear, bones and joints, etc., knowledge of which is required of the student as much as of muscles, arteries, and nerves. The illustrations are beautiful, yet the half-tone plates are open to the criticism of indistinctness, a bad matter in a work of this kind. The old idea of semi-diagrammatic drawings in works of anatomy is far more practical. Certain new ideas, obtained by means of composite photographs, are presented in relation to the visceral relations. The indexing leaves nothing to be desired, being unusually full and complete. In fact, the entire work shows painstaking care, and is far above the average of the general manual, though a student should not be advised to depend upon it altogether to the exclusion of Gray, Morris, or Leidy.

LIPPINCOTT'S for November has as its complete novel "An Interrupted Current," dealing incidentally with scientific questions of some interest in a far more reasonable way than is common with the average light novel of the day. The articles completing the number are of the usual high grade.

HARPER'S ROUND TABLE is the ideal publication for youths. Each number seems better than its predecessor. The boy or girl who reads the periodical regularly will acquire a

cultivated literary taste and have no leanings toward blood and thunder in the form of dime novels.

SCRIBNER'S for October is, as usual, at the top notch of monthly publications. A review of the various magazines leads to thought as to the multiplication of graceful, ready writers as compared to the period before their establishment. Verily, *Scribner's*, and its congeners in the field, have done great work, not only in purifying and elevating public taste, but also in educating and bringing to notice literary talent.

HARPER'S WEEKLY deals, as usual, spicily with the political questions of the day, doing effective work in the line of its proclivities ere the opportunity passes with the coming of election day. "The Landlord at Lion's Head," by William Dean Howells, is increasing in interest. The recent article upon the semi-centennial of the discovery of anesthesia was timely and excellent, and well illustrated.

PERISCOPE.

NEWS AND MISCELLANY.

Two cases of specific urethritis in very young boys, which may be of interest not only from a professional but also from a sociological standpoint are reported by Bernard Wolff, of Atlanta, Ga., in *Pediatrics*.

CASE. I.—A poorly-nourished negro boy, three years of age, was brought to my clinic for treatment of frequent and painful micturition of a week's duration. Examination revealed a penis of unusually large size, with a swollen and edematous prepuce, from the everted orifice of which a stream of thick, greenish-yellow pus was issuing. A slide was obtained from this, which was found after staining with carbol-fuchsin to be swarming with gonococci.

The mother of the boy stated that she shared her small house in the negro quarters with a family in which there were a number of half-grown girls and that shortly before the boy had begun to complain of pain on urination, she had detected him in the act of copulating with one of these girls.

CASE II.—A well-developed negro boy, five years old, was brought by his parents for treatment of cystitis that had existed for ten days. There was an almost continuous dribble of urine and great pain and distress in the region of the bladder. A small quantity of pus was obtained by stripping the urethra and stained with methyl-blue. It was found to contain a considerable number of gonococci. The boy's mother expressed no surprise when I informed her of the nature of his trouble and said that she had already suspected it, as the boy slept with a mulatto girl of fourteen and that she had several times been caught in the act of drawing the boy on top of her. When remonstrated with, she had feigned ignorance of the meaning of the reproof. I had an opportunity of examining this girl some time afterwards and found her suffering from vaginitis, presumably of gonorrheal origin.

These cases, while not unique, are of sufficiently infrequent occurrence, especially when the disease is contracted by actual sexual connection and not accidentally or intentionally inoculated, to be of interest. They serve to illustrate the extreme precocity of the sexual instinct in the negro. The truth of the statement, made in a recent editorial in the REPORTER, that the sexual purity of boys was violated more frequently than supposed, and that they should be legally protected as well as girls is well brought out by these cases.

The ecbolic action of sugar was some time ago brought to the notice of the profession by Bossi, and the matter is now followed up by Dr. Kosminski (*Edinburg Medical Journal*), who gives an account of his experiences with this agent. He gave from 300 to 800 grams of sugar daily to pregnant women; from 100 to 200 grams to women in the first stage of labor; and from 100 to 225 grams to patients in the expulsive stage. His conclusions are: (1) Sugar given in large doses to pregnant women at term increases existing uterine contractions, and may even provoke labor; at the same time it causes vomiting and diarrhea, lasting two days or so; and glycosuria, persisting for three or four days. (2) When given in rather large doses at the time of full term or premature confinement it increases the pains of both the first and second stages of labor, and seems also to have a favorable influence on the uterine retraction following delivery; if moderate doses are used glycosuria rarely supervenes, and when it does occur passes off quickly, without hurting either mother or infant. (3) The increase in the pains of labor following the taking of the sugar is not always exactly proportionate to the dose employed, pointing to an uncertainty in the action of the agent upon the muscular fibers of the uterus. (4) Large doses of sugar must be avoided in pregnant and parturient women, since it causes a rather intractable glycosuria. (5) Its employment has no very

great practical importance: but it may be used to increase the expulsive efforts in the second stage of labor, or it may be given after delivery to encourage uterine retraction.

The calomel treatment of typhoid fever is advocated by Dr. Augustus Elliott, of New Haven, who gives the following general rules:

I. Keep the patient in bed until for an entire week the temperature has been normal.

II. Keep him on a sterilized liquid diet as long as he remains in bed.

III. At the beginning of the disease, give ten grains of calomel on alternate days.

IV. Give one grain of carbolic acid and three drops of tincture of iodine, every four hours, during the entire illness.—*Medical World.*

A chronic poisoning by carbon disulphid has been noted among workers in india-rubber factories, and the matter has been investigated by Dr. Stadelmann, of Berlin (*Annals of Hygiene*). Three patients, whose cases were especially under observation after having worked for some weeks in those factories, were seized with giddiness, headache, tremors, drowsiness, loss of energy, and gradual impairment of vision. One of them complained of xanthopsia, and objects moving in the street appeared to him as if seen through a cloud; he also had painful contractions of the muscles and an increasing difficulty in walking or even in standing. Another patient suffered from stammering and fear of walking in the dark, and a further remarkable symptom was anesthesia of certain portions of the skin. All these phenomena were due to carbon disulphid liberated in the factories, and they are quite characteristic, although only a small number of such cases has been reported up to the present time. Some patients declared that their food had a sulphurous taste, and in grave cases insanity ensued. Preventive measures had obviously been neglected, and Dr. Stadelmann thinks special regulations very necessary for india-rubber factories. Workmen showing the symptoms above described ought to be at once removed from the unwholesome atmosphere.

Dr. Thomas H. Manley has recently been appointed Professor of Surgery in the New York Clinical School of Medicine; also Visiting Surgeon to the West-side German Dispensary.

The editors of Mathews' Medical Quarterly announce that with the January issue of that publication its name will be changed to *Mathews' Quarterly Journal of Rectal and Gastro-Intestinal Diseases.* This is a change which has been deemed necessary for some time, as it is essential that the title of a medical journal should convey to the reader an idea of its contents, and this has not been the case with its name from the beginning. There will be no change in the policy of the journal in the least. As it will continue to be the only English publication devoted to diseases and surgery of the rectum and gastro-intestinal tract, the articles which will appear in it will be limited to these subjects. The journal will continue to be edited by Drs. J. M. Mathews and Henry E. Tuley, and published in Louisville, Ky.

School hours are, as a rule, too long for the best good of the children, both as concerns their body and minds, says Dr. William Meacher, in the *Charlotte Medical Journal.* How many grown people are there who could go into a crowded room and study for a period of six hours a day? Or, if they could do it in spite of the drowsiness and stupor that comes upon them, how long will it be before their health suffers? The practice of keeping children in the school-room after school hours for the purpose of punishment, is a very unwise one. If the hours of school could be reduced to about four instead of six hours a day, two in the forenoon and two in the afternoon, with the usual intermissions, children would undoubtedly learn more, and with a greater relish, than in the longer hours, especially if teachers could give them the necessary time and attention. To this end we should have more teachers and fewer pupils for each teacher. Then teachers should have the ability and opportunity to learn the peculiarity and basis of each pupil's mind, and be able to lead and direct it in the pursuit of the kind of knowledge for which it is by nature best fitted, whether that be a knowledge of books or "knowledge never learned of schools." Of course all this means much more expense, and less "machine-made" education, at so much "per capita." But life has no higher duty than the preservation of health, both in body and mind. If we are going to win in the fight with the "great white monster," consumption, the school-room is one of the most important points to be looked to.

The non-medical use of salicylic acid as a food preservative is made the subject of editorial mention in a recent issue of *Dunglison's College and Clinical Record.* Its employment in this direction has been semi-officially sanctioned in Great Britain, particularly as an antiseptic preservative in the manufacture of wines. The *Record* says that the question must soon be decided in the interests of human health, and that it is a very good sign that the lay press is discussing the matter with so much interest, and calling public attention to the deleterious effects of the drug. The weight of opinion seems, however, to be opposed to the use of the acid on account of its toxic qualities. Salicylic acid is known to have produced unmistakable symptoms of poisoning, and its effects as a preservative, when added to dietetic preparations, are believed to last after the food is taken into the stomach, thus rendering it much harder to

digest. Moreover, it does not seem proper or justifiable, in any event, to administer to anyone in a disguised form, under the plea of giving him a food, a potent drug, which may disturb, in one way or another, the healthy exercise of some of the important functions of the body.

Two most extraordinary cases, for which they do not profess to account, are related in a recent issue of the *American Gynecological and Obstetric Journal* by Stansbury Sutton and Gordon. October 20, 1892, Sutton removed two large multilocular ovarian cysts from a woman aged twenty-eight. The ligatures lay close to the uterine cornua. On June 10, 1894, the patient gave birth to a male child, weighing ten and one-half pounds. On February 25, 1896, she was once more delivered. Gordon, in March, 1894, removed both ovaries and tubes from a woman aged thirty-three, the subject of chronic pelvic mischief. He believed at the time that no fragments of the ovary were left. From a few months after the operation she menstruated regularly till June, 1895, when she became pregnant, and was delivered of a healthy child in March, 1896. The only explanation is that the stump of one tube must have opened, allowing an ovum from a piece of ovarian tissue to pass through into the uterus. In a second case, where pregnancy followed three years after operation, it was not absolutely certain that both ovaries were removed. A discussion followed the reading of the above cases at the annual meeting of the American Gynecological Society, but no satisfactory explanation of the occurrence of pregnancy was brought forward.

The action of the Roentgen rays is claimed to produce a severe dermatitis without causing pain or any symptom to indicate trouble. The *Western Medical Review* reports a case of an attorney who sustained severe injury to the shoulder-joint, the extent of which it was impossible to obtain. A skiagraph was taken of the joint, the seance lasting about two and a half hours. During the sitting the patient complained of no pain, no burning sensation, and no inconvenience whatever, except the tiresomeness of being so long in one position. In about a week afterwards he began to feel a slight burning sensation, and on examining the back of his shoulder where the rays had been concentrated he noticed a slight redness, an erythema. This gradually increased in intensity, so that in four or five days afterwards he consulted his physician. That gentleman informs us that by that time the dermatitis had resulted in such profound trophic changes that in appearance the wound looked like a severe burn of the second degree, covering a space as large as two hands. For three weeks it seemed almost impossible to control the inflammatory action that was set up, and now, two months after it was first noticed, there is an irregular space, three by four inches in extent, not yet covered by skin.

The strange thing about this case is the fact that there was no indication of trouble at the time the patient was subjected to the rays, and there was no suspicion that any injury would result till at least a week afterwards. The extreme length of time the seance lasted may have been, and probably was, the cause of the dermatitis, but at the same time the conclusion must be reached that there is a subtle influence or action in the Roentgen rays that is not yet appreciated.

A new operation for cleft palate is advised by Dr. Truman W. Brophy, of Chicago (*Medical Record*). He takes the ground that the operation should be performed much earlier than has been the custom of surgeons heretofore. It has not usually been thought advisable to operate for the closure of cleft palate until the child has reached the age of from two to five years. He holds that when the operation is thus postponed the changes in the voice become permanent, and repair of the palate at that time would not favorably influence voice production. His operation consists in freshening the edges of the cleft; then by deep suture of silver wire fixed through a lead plate conforming to the palate, the edges of the cleft are drawn together and so maintained until healing takes place.

A satisfactory remedy for toothache is always acceptable. Dr. Gills, of Briancon, (*Therapeutic Gazette*) reports that he has rapidly relieved toothache due to caries dental by means of an antiseptic solution with which the mouth is to be washed out four or five times. His formula is:

Boiled water.....4 parts.
Van Swieten's solution.....1 part.
Any tooth wash, q.s., to correct taste.

As Van Swieten's solution is merely a 1 to 2,000 solution of the bichlorid of mercury in water, with a very small proportion of alcohol, the mouth wash is simply a hot aromatized 1 to 10,000 solution of bichloride.

The Bender Hygienic Laboratory, in connection with the Albany Medical College, was dedicated October 27th. Addresses were made by Dr. George E. Gorman, Professor A. Jacobi, of New York; Dr. A. Vandervere and Harry H. Bender.

The following method of testing the urine for albumen is given in the *Medical Record* by Dr. Alex. C. Ewing. Draw up into a small glass pipette, or tube, about an inch of the urine, let the finger remain tightly over the top, and insert the pipette into nitric acid, and draw up under the urine about the same quantity of acid, when, if even a trace of true albumen be present, there will appear a beautiful line of demarcation between the acid and urine. This test is as accurate as it is simple, and, besides, is decidedly economical, and far less trouble than all others.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2070. SATURDAY, NOVEMBER 7, 1896. VOL. LXXV—No. 19

ORIGINAL ARTICLES.

SURGERY FOR TYPHOID PERFORATIONS.*

JOSEPH PRICE, M.D., PHILADELPHIA.

I submit the following report of cases operated on for typhoid perforation for the lessons they may convey, and will discuss them from the standpoint of our more recent experience.

CASE 1.—Mrs. A. O., aged thirty, having several children, but without a history of miscarriages, was admitted to the hospital on October 2, 1896. She was seen by Drs. Hughes and Owen in consultation after some three weeks of illness, with a typical history of typhoid fever. Operation was performed on October 1st. Symptoms of perforation were present with well localized attacks of peritonitis and an irregular and ill-defined tumor on the right side. Omentum and small bowel were found adherent in the region of the ileo-cecal valve. The adhesions were easily freed and two perforating ulcers, six inches apart, were found. The lower one, situated a few inches from the valve, was large, irregular, and necrotic; the second one was higher up in the bowel, about one-half inch in length, well defined, and less healthy in appearance.

A puddle of filthy fluid was found about the perforations, and the omentum and appendix were also involved in the adhesions. The infected portions of the omentum and appendix were removed. The holes in the ileum were trimmed and sutured, and an irrigation toilet was followed by both glass and gauze drainage. The mesenteric and retroperitoneal lymphatics were generally enlarged and easily recognized by touch and sight. Recovery ensued without a hitch.

CASE 2.—Mrs. B. K., a married woman, aged twenty-six, with two children and a history of one miscarriage, was admitted to the hospital on June 4, 1896. She had a rapid pulse and high temperature, and appeared to be in a decided septic condition. Peritonitis was quite general, and alarming emaciation had taken place apparently as a result of some lung trouble. Section was made on June 5th. General adhesions were found in the region of the ileum and right groin. When all adhesions had been freed, a large, ragged perforation was found in the ileum, with circumscribed accumulation of

*Read before the Philadelphia County Medical Society, October 28, 1896.

bowel contents. The perforation was trimmed and sutured. After an irrigation toilet, glass and gauze drainage were provided. Recovery followed. For two days following the operation the pulse remained high and feeble. The temperature also was high, and this was considered rather favorable. This patient had been very ill for two weeks before admission to the hospital. The character of the ulceration was doubtful, as there was tuberculous trouble in the lungs. The closure of the fistula after suturing is rather against tubercle, as tuberculous fistula rarely close by suture.

CASE 3.—Mrs. R. B., a married woman, aged twenty-eight, without children and without a history of miscarriages, came under observation after three weeks of illness and treatment for typhoid fever. She was admitted to the hospital on January 5, 1895, and went into collapse soon afterward, being unconscious at the time of operation. On January 6th section was undertaken, freeing all adhesions, stitching multiple bowel-fistula, detaching lymph from the bowel with gauze. There was a general angry peritonitis, with filthy bowel contents, and filthy inflammatory products throughout the peritoneal cavity. Gaseous distention was marked and the peritoneum had a decided fecal odor. Thorough irrigation and drainage were practised. I never attempted to close a filthier peritoneal cavity than this, either ante-mortem or post-mortem. Recovery followed. There were present at the operation Dr. N. Fred Essig, of Spokane, Washington; Dr. Samuel S. Q. Robinson, of the U. S. Army; Dr. Harold Bunn, of California; Dr. John F. Roeder, Dr. H. S. Lewers, and Dr. Garden, of Philadelphia.

Notwithstanding the great progress medical and surgical science has made, typhoid fever continues to present many complex and difficult questions. It must be classed among the most grave troubles with which the profession has to deal. Little is known about the disease, other than of its more objective symptoms. There is no exactitude or certainty in its treatment, which is rarely the same by any two physicians. The treatment begins with guesses and grows into some degree of certainty only as conditions improve. I will not attempt to deal with the larger circle of facts connected with typhoid fever, but will restrict my discussion to the surgical treatment of typhoid perforation.

Again, we have a wide divergence of opinion as to the propriety or wisdom of operation. There is no very general accord of opinion as to prognosis or the definiteness and reliability of symptoms —as to reliable evidence of perforation —nor is it agreed that all these cases prove fatal.

Dr. Reginald H. Fitz, of Boston, has furnished valuable data as the result of a study of the work of the earlier investigators as to the fatality of typhoid perforation. Louis, Chomel, and Jenner have reported numerous cases of typhoid perforation, but none of recovery. Tweedle says: "Intestinal perforation is always fatal, generally within thirty-six hours." Some more recent authorities make more favorable reports, others agreeing with the earlier authorities as to the almost certain fatality.

Griesinger holds that there is a possibility of the healing of a perforation and of recovery "never in cases of general peritonitis, only when the inflammation is wholly circumscribed. The rare exceptions are hardly worth considering in connection with the prognosis, which is to be regarded as almost fatal when the symptoms of perforation are distinct, and as absolutely fatal when gas is present over the liver. Murchison, who has contributed much that is valuable to the literature of the subject, says that "rare cases are met with where recovery ensues after all the symptoms of peritonitis from perforation." Dr. Reeves reports that: "I have seen in five instances all the symptoms which announce and follow perforation of the bowels, yet the patients recovered." Dr. Loomis, in discussing the subject, says: "I do not remember to have seen a single recovery after there were unmistakable evidences of intestinal perforation. Recovery from a local peritonitis complicating typhoid fever is not uncommon, but when the characteristic symptoms of intestinal perforation are present, in my experience, a fatal issue soon follows." So we have the weight of authority on the side of almost certain fatality.

In the reported cases, due allowance

must be made for errors of diagnosis. In many of these cases the diagnosis was not made until post-mortem examination revealed the characteristic typhoid lesions. Had recovery taken place, much doubt would have remained in the mind of the operator as to the real nature of the perforation. We know that typhoid perforations are the most common variety of perforations, and the perforation is usually in the ileum.

As to the mortality in cases of the perforation of the bowel, Dr. Osler gives recent statistics: "In 114 cases of the 2000 Munich autopsies (5.7 per cent.) and in fourteen instances in my series, the intestine was perforated and death caused by peritonitis. The perforation may occur in ulcers, from which the sloughs have already separated, or it may be directly due to the extension of a necrosis through all the coats. In only a few cases is the perforation at the bottom of a clean, thin-walled ulcer. In one instance the perforation occurred two weeks after the temperature had become normal. The sloughs were, as a rule, adherent about the site of the perforation. A majority of the cases were in small, deep ulcers. There may be two or even three perforations. The orifice is usually within the last foot of the illum. In only one of my cases was it distant eighteen inches. Peritonitis was present in every instance.

Hemorrhage from the bowels occurred in ninety-nine of the Munich cases, and in nine of my series. The bleeding seems to result directly from the separation of the sloughs. I was not able in any instance to find the bleeding vessel. In one case only a single patch had sloughed, and a firm clot was adherent to it. The bleeding may also come from the soft, swollen edges of the patch. Peritonitis without perforation may also occur by extension from the ulcer, or, occasionally, by rupture of a softened mesenteric gland. It was present in 2.2 per cent. of the Munich autopsies.

The question is direct, What chances does surgery offer? The one and only chance left. We know the almost inevitable sequel in one case and something of the possibilities in the other. The one means death, the other gives a chance of recovery. The error, to put it mildly, consists in abandoning these cases as absolutely hopeless, when there is yet one last resort,—surgery,—which furnishes precedents of encouraging success. I am not venturing upon entirely new ground. Dr. James C. Wilson, the honored President of this society, a clinician of wide experience, stands among the first, if not the first, to advocate, in clear, unequivocal language, surgical dealing with these cases. Dr. Hunter McGuire, of Richmond, Va., a worthy supporter of the fame of the old school of surgeons, recommends the tying of vessels to control hemorrhage from ulcers in typhoid fever. He recognizes that too many are lost from this cause, and suggests an original and ingenious method of suturing to control the hemorrhage and avoid necrosis. We are slow in following the lead these men take, slow and hesitating in adopting their urgent suggestions, in coming down from our theoretic lofty height. All our surgical procedures have made their way in the face of relentless criticism and opposition. Surgical interference, in cases of typhoid perforation, has not proved an exception. Largely, the difficulty lies in timidity and oversensitiveness as to professional repute. The protective character of adhesions are often misleading, tending to lull apprehension as to immediate existing risks to life. The condition is too frequently classified for non-interference—left to the processes of nature—when parts are weakened and poisoned beyond the kindly healing and remedial processes of nature. We find, occasionally, recorded deaths from spontaneous perforation due to chronic local peritonitis. The history may be that of localized attacks of peritonitis—with doubtful evidence of perforation—the localized attack resulting simply in adhesions about the ulcer. If the adhesions are well formed the escape of gas and bowel-contents will be limited when perforation occurs.

The patching or fortification by adhesive and protective peritonitis, avoiding acute general peritonitis and sepsis, gives us the most favorable class of cases for surgery. Localized peritonitis, with adhesions, with or without perforation, around an ulcer, with sufficient adhesive and inflammatory product to

form a small tumor, is quite easily recognizable in an emaciated patient. An eminent surgeon says, in connection with these cases, that which cannot be accepted as safe dictum:

"Surgeons are not justified in performing laparotomy for the suturing of perforated typhoid ulcers, if circumscribed peritonitis of an adhesive or protective character exist, or is in process of development."

The trouble, as with all intestinal affections, is a hidden one, not one directly addressed to our vision. We cannot determine with any large degree of certainty, even from a few marked objective signs, the extent of the protective character of the adhesions, nor determine anything certain as to the character or extent of the process of development. We know the sequence in the majority of these cases where there is no interference. Perforations or fistulæ, due to ulceration and sloughing, rarely close. Almost all such ulcers are surrounded by adhesions, with pus, bowel contents, fistulæ and fistulous openings. Complications become general, keeping the patient in a miserable condition; emaciated and anxious, with a rapid pulse, cold, clammy and greatly wasted. Fistulæ of viscera, due to incision or surgery, commonly closes spontaneously. Not so, however, when due to sloughing. Unfortunately, we are not always aided by the clinical history in our diagnosis. We are directed or guided largely by the patient's general condition, the peritonitis or the small and ill-defined tumor.

There is but little difficulty in settling the fact that the patient is dying of some intra-peritoneal lesion. Errors are rarely made in opening the abdomen. Suture methods for repair, after careful trimming of the ulceration, give the most pleasing results. Excisions or resections have nothing to recommend them. The open treatment, when the conditions are desperate, and sepsis and bowel distention very marked, favors peritoneal and bowel drainage of all contents. An abundance of gauze placed about the fistula in the shape of a square coffer-dam favors simple drainage and avoids contamination. The large mortality has been largely due to clumsy and imperfect work. Everything within the abdomen is intolerant of bungling manipulation. The surgery is not to be gone at with that awkwardness with which a man would try to put his five fingers in a glove with four. The delicacy of the condition of the parts, which the very nature of the disease creates, requires in the surgery the use of fingers delicate and sensitive of touch and deft in use. The repair of perforations, commonly single, rarely multiple, is easy and should be rapid. There may be some delay in the seeking and finding the point of perforation, but the well-defined nature of the pathologic condition at that point is easily recognized by fingers familiar with normal intra-peritoneal conditions. The deviation from the normal can be instantly recognized when the fingers are passed through the viscera without exposure. The cluster of adhesions, omentum and bowel, about the perforation are easily freed. The cleansing, local and general toilet, are of great importance. Rarely do we find distention associated with perforations, except in the delayed cases, on the third or fourth day after perforation.

In delayed cases the mass is well marked; paresis of the bowel with overdistention is prominent. The characteristic fecal odor is recognized at once upon opening the abdomen. This is most marked in the acute cases in those dying soon after perforation. If the adhesions are well formed about the perforation, a fecal odor is rarely present. When patients are under observation, the diagnosis made early, the disease running a uniform course with a definite train of symptoms, the characteristic morning remissions and evening exacerbations, and about the third week a copious intestinal hemorrhage takes place, with the patient sinking into fatal collapse, with a quick pulse, subnormal temperature, the symptoms admit of but one interpretation, and point to but one possible source of relief.

In the very nature of things, from the very character of the trouble and the parts attacked, the mortality will always be large; but some can be saved. The stimulus of anesthesia increases the force of the pulse, the patient's respirations deepen, and at the completion of many of these operations the patient's

general condition is often better than before the operation. An irrigation toilet, aside from having great value for cleansing, is a stimulant to the solar-plexus and favors reaction.

The same principles apply in these cases of typhoid perforating ulcers that apply in cases of general septic or purulent peritonitis and to stab wounds and gun-shot wounds. The words of Dr. D. Hayes Agnew, who, in his day, was the sovereign spirit of American surgery as applied by him to gun-shot wounds of the abdomen, applies with equal appropriateness to typhoid perforations.

He says: "I want to place myself upon record, for I have very strong convictions with regard to laparotomy. They amount to this: If there is a reasonable degree of evidence that there is a penetrating abdominal wound, especially if a shot-wound, it is our duty to open the abdomen, to make an exploratory incision. We are not to be deterred by the possibility of some legal technicality, if the case should come into court. We are to do our duty without reference to consequences."

I will quote extensively from Dr. J. C. Wilson, for nothing better has been said upon the subject:

"I take it for granted that almost every case of free extravasation of intestinal contents, however small in amount, into the peritoneal cavity terminates fatally. There is little reason to believe that any case of this kind recovers. It is important to note that the cases of peritonitis in enteric fever in which recovery is possible can be chemically distinguished from those which will terminate rapidly in death. The clinical picture of the two conditions is almost as distinct as are the pathological lesions. Where there is extravasation of the intestinal contents into the peritoneal cavity, the collapse is like that caused by the escape of an amount of foreign matter, the result of a perforating gun-shot wound of the intestine. The proposition which I submit for discussion arises directly from a consideration of the matter in this way. Until within a few years, no surgeon realized the possibility of treating cases of gun-shot injury of the abdomen with perforation of the intestine and the escape of blood and fecal matter by the operation of laparotomy, washing out the peritoneal cavity, excising bruised and lacerated portions of the intestine, and bringing the parts together by suture. Yet this is now the recognized procedure in such cases, and has been of late practised in many instances with success in cases that, under the old plan of opium and expectancy, would have inevitably perished.

"Are we ready to adopt the same measures in perforation of the intestine with similar conditions as regards the peritoneal cavity, and a like helplessness as regards cure by opium and expectancy in our cases of enteric fever? Recognizing the two groups of cases I have described, and being, as we are, able to refer almost all cases to either one or the other of them within a few hours of the development of the symptoms, are we prepared to decide—and to do so with the necessary promptness—upon those operative procedures by which alone in the second group the life of the patient may be saved.

"Granted that the chances of a successful issue are heavily against you; that the patient is in the midst or at the end of a long sickness; that his tissues are in the worst state to stand the injuries of the surgeon's knife; that the lesions of the gut may be very extensive; that the vital forces are at the lowest ebb. No one yet has hesitated to perform tracheotomy in the laryngeal complications of enteric fever, which require it to save life, for these reasons."

The operative treatment of purulent peritonitis has been performed many times successfully by the gynecologist in conditions scarcely less unpromising. In point of fact, the objections that may be urged against laparotomy in intestinal perforation in enteric fever are no more forcible than those which would have been made use of at first against the same operation in gun-shot wounds of the abdomen. The courage to perform it will come of the knowledge that the only alternative is the patient's death. Dr. Wilson, with his advanced, pioneer views in this connection, does not furnish the first illustration of the physician taking the lead of the surgeon, furnishing the guiding, the impelling thought, not infrequently the courage.

About seven years ago the American

Surgical Association and the Association of American Physicians discussed, at the same time and in the same building, the relative merits of surgical and non-surgical interference in appendicitis, the medical body deciding in favor of prompt operative interference, the surgeons for delay. Almost coincident with Dr. Wilson's advocacy of celiotomy for the relief of intestinal perforation in typhoid fever, Dr. Lewis S. McMurtry, of Louisville, Ky., performed an operation, the subject being a physician, and found multiple perforations. He trimmed the holes, closed them with sutures, irrigated and drained, recovery following. A report of this case, with the patient present at the time, was made at the Cincinnati meeting of the American Medical Association.

There is another recorded case—that of McArdle, of Dublin. The history is one of abscess and multiple perforations following an accident, occasioned by jumping from a wagon.

The accident is not a very satisfactory explanation of the trouble in this case. The evidence better supports the conclusion that the case was one of walking typhoid fever with multiple perforations. I might refer to cases in my own experience and that of others, in which the history was doubtful. A considerable number of operations for circumscribed abscess have been reported as successful. Many of these cases are quite as questionable in their history as are those for which post-mortem operation has been done or refused.

In this connection Fitz says:

"Although the reported instances of the successful results of an operation for the cure of circumscribed peritonitis in typhoid fever are comparatively few, I have been able to collect a considerable number in which recovery resulted from resolution or from the spontaneous evacuation of the inflammatory product. In seventeen cases of recovery by resolution the peritonitic attack began in the second week in one, in the third week in eight, in the fourth week in one, in the fifth week in one, and in the sixth week in two. It began at the end of the fever in one, and during convalescence in three. Recovery took place in a week in one, in two weeks in three, in three weeks in two, in four weeks in one, and in two or three months in three. The length of time necessary for recovery in the remaining cases was not stated."

It is a mistake, on the part of gynecologists and obstetricians, to apply the term typhoid fever to certain septic conditions. The spongetent, the curett, the sound and a variety of minor gynecologic operations have been followed by septic conditions and abscesses, frequent pulse, high temperature and diarrhea—simulating typhoid fever.

Obstetricians are in the habit of reporting septic cases under the head of malaria. The recorded mortality is largely from the prolonged anesthesia of a patient already enfeebled and with a greatly weakened heart, and the great length of time taken in the operations. They will not stand prolonged anesthesia or a prolonged operation. In a large percentage of those dying after long anesthesia and operation, death is due to causes within the surgeon's control.

One of the common causes complained of is that of weak, unhealthy tissue, and the yielding of sutures. Herein lie two errors—the choice of needle and that of suture-material. The best needle is that from the woman's sewing-case—a fine, round needle, and 0 or 00 Chinese silk.

Early diagnosis, early operation, painstaking, rapid work will save many lives.

Courage goes hand in hand with reverence for human life. There is much force in what Napoleon said to Las Casas: "As to moral courage, I have rarely met with two o'clock-in-the-morning kind. I mean unprepared courage, that which is necessary on an unexpected occasion, and which, in spite of the most unforeseen events, leaves full freedom of judgment and decision." It is two o'clock-in-the-morning courage we need—the factor that goes largely to settle the result in many surgical cases for us is the lost quarter of an hour.

Sportsman—What are you fishing for? Farmer—Fish. Sportsman—But what kind of fish? Farmer—Fresh fish. —*Chicago Record.*

THE PERFECT SURGICAL NEEDLE; WITH REMARKS ON COMMON DEFECTS IN NEEDLES.*

JOHN B. ROBERTS, M.D., PHILADELPHIA.

Little attention has been given to the proper construction of the surgical needle, though it is an instrument of great importance. A perfect surgical needle should be adapted for use by the surgeon's fingers without the interposition of any other instrument; its point should emerge exactly where the operator wishes; it should quickly and easily carry the suture through the skin or other tissue, and should be serviceable for sutures of silk, catgut, tendon, silkworm-gut, or wire.

The first proposition condemns as imperfect all needles that require a needle-holder. It always surprises me to see an operator encumber his fingers with a needle-holder in suturing ordinary cutaneous wounds. The explanation is probably to be found in the unsatisfactory needles often employed. The fingers are always better than any other needle-holder, unless the stitch is to be introduced at the bottom of a cavity, where the fingers cannot reach the wound. In cleft-palate operations and in vaginal surgery, needle-holders are necessary. Under nearly every other circumstance it is better to introduce the needle with the fingers.

Accuracy in directing the point of a needle, after it is buried in the tissues, and in bringing it out at the desired spot, is best attained by using a straight needle. It is difficult to ascertain the exact position of the point of a curved needle when it is once out of sight. This is attested by the frequency with which operators have been stuck by the point of a curved needle making its exit at an unexpected place. This uncertainty is lessened, but not entirely obviated, by the use of needle-holders or needle-forceps, which prevent the needle turning after its point is buried. A straight needle, guided by the fingers, is the proper means of overcoming the difficulty.

In order to fulfil the third condition, the needle must be sharp, have an eye large enough to be readily threaded with catgut, and make an opening in the tough skin sufficiently large to allow the head of the needle, with the two thicknesses of catgut, to pass readily. If catgut can be used in the needle, any other suture will go through its eye.

Within recent years various forms of needles have been offered by instrument-makers, but all that I have seen are inferior to the glover's needles which I have always employed. Some so-called surgeon's needles require so much force to drive them through the skin that a needle-holder or needle-forceps must be used both to insert and withdraw them. Some have such small eyes that they cannot be threaded with catgut; others cut such a small opening in the skin that the double thickness of the suture at the eye makes it almost impossible to drag the needle through.

Non-chromicised catgut, when softened with water, is probably the most bulky suturing material that we use. Surgical needles should therefore have eyes which can be satisfactorily threaded with this suture. They will then answer well for any other.

The perfect surgical needle which I show is only a carefully made and slightly modified glover's needle—that is to say, the needle that has for many years been found most satisfactory to those who are continually sewing animal skins in the manufacture of gloves and leather articles. The requirements are practically those pertaining to suturing ordinary cutaneous wounds. I doubt if any argument would induce a workman who stitches leather gloves or furs by hand to exchange his straight needle for the needle-forceps and curved, or otherwise defective needles often seen in operating rooms.

A needle has a point, a shaft, and a head. In the last is the eye. The perfect needle shown has a three-sided

*Read before the Philadelphia County Medical Society, October 28, 1896.

point, made like a trocar, and is very sharp. The sides of the slender trocar, as it may be called, must be exactly alike, so that the point will not resemble a bayonet, which has one of the sides wider than the other two. Some one, ignorant of the requisites of a surgical needle, has introduced to instrument-

makers a bayonet-pointed needle. It is, in my opinion, inferior to the glover's needle.

The trocar-like point should occupy above one-third of the needle's length. The greatest diameter of the point should be near its middle. Although the end of the point should be very sharp, its three edges should not be keen, lest they cut the fingers when the operator pulls the needle through the skin.

The three-sided point gradually fades into the shaft, which must be cylindrical, not flat, and have a diameter a little *less* than that of the point where it is largest. The shaft then gradually tapers down towards the head, which must have a little *less* diameter than the thickest part of the shaft. The eye must be large, and oval or rectangular; not circular. The head, at the sides of the eye, must not be caused to bulge outwards by the drill or punch which makes the eye. Behind the eye the head must be grooved on both sides; in the groove lies the thread, which consequently presents no shoulder to catch as the needle passes through the skin. There is a groove in front of the eye on each side to render cleansing easier and to keep it free from dried blood and dirt.

The reasons for the characteristics of this needle will be apparent if one thinks for a moment of the work that a needle is intended to perform. It must make a hole in skin, a tough, fibrous tissue. The skin is very different from the woven materials sewed by the seamstress or tailor by means of a round or cambric needle. The instrument used by the surgeon, when he wishes to puncture a subcutaneous cyst by a small opening, is a trocar. A needle should have a similar point, which should be thrust through the skin with a sudden push very much as a trocar is used. Some operators erroneously use a needle with the slow movement used in putting a pin into the end of a roller bandage.

In the second place, the opening made by the introduction of the needle must be enlarged so that the shaft of the needle and the eye containing the thread may be drawn through it easily. This point is attained by having the point increase in diameter like a pyramidal wedge. When sufficient diameter has been given to effect this object the needle tapers down. The eye, with the threaded suture, therefore requires less or very little more space in going through the skin than the thickest part of the point, and glides through without catching or requiring force on the part of the operator.

To get the best service out of a needle the operator should occasionally sharpen its point on an oil-stone; and always select a needle large enough for the work. If the skin is thin and soft, as in the eye-lids, a small needle may be used; but when the incision to be closed is in thick skin, a comparatively large needle is required to penetrate the tissues readily and easily.

A convenient method of preventing the needle becoming unthreaded, is to tie the short and long ends of the thread together at the eye by a half-knot. This is quickly done when the needle is threaded for use, and the half-knot is readily pulled out, if it be necessary to thread the same needle again after the suture has been used up. This tie serves to bury the thread in the grooves behind the eye. If a proper relation between the size of the needle and that of the thread exist, the knot will not catch as it is drawn through the skin.

In contrast with the perfect needle, I show a series of twelve needles, all of unsatisfactory shape, most of which are extensively used at the present time. Several are curved and hence difficult to direct, whether bent only at the end or throughout their entire length. One

has a beveled point like a hypodermic needle, is cylindrical except at the very ends, and is wider at the eye than anywhere else. Nothing could be less well adapted to the purpose of a needle for cutaneous wounds.

Another—the Hagedorn needle—has a slender rod-like shaft, with a point sharpened like that of a knife. It is sure to go through the skin with difficulty, because it must catch where the suture makes a shoulder or ledge at the eye; and is very likely to cut the surgeon's fingers when he attempts to pull it through the skin. I believe this needle was originally advocated because it cuts a slit at right angles to the wound and the stitch, which lies in the end of the slit, tends to draw its sides together. Other needles were said to be less desirable because they had a tendency to make a wound with its long diameter parallel to the wound to be sutured. The tension of the stitch would, it was assumed, tend to draw this puncture open, and afford an entrance for infection. This reasoning is merely theoretic and of no value. The thread, as a rule, nearly or quite fills up the puncture, and if the needle-wounds are exposed to infective germs, the thread itself probably acts as a route by which they enter the tissues. Metallic sutures are less liable to act in this way.

One of the other needles that I dislike is cylindrical and of greater diameter at the eye than at any other part. It's unavailability is apparent. It may not have been originally intended for surgeons' use, but I bought it at an instrument-maker's. The bayonet-pointed needle I have already condemned, though it is much better than the others. Another unsatisfactory form has a flat shaft and a point somewhat like the head of a spear. Its fault lies in the fact that its widest diameter is not in the same plane as that of the thickest part of the threaded needle, which is at the place where the suture occupies the eye of the needle.

Finally, I show three needles which have a trocar-like point similar to that which I call the perfect needle. They are, however, exceedingly bad, because the points do not make a puncture big enough to allow the shaft and eye of the needle to traverse the skin with ease. No adequate provision is made in them to dilate the wound or to have the after-coming head of less size than the shaft of the needle.

BILIARY CALCULI*

HENRY LANDIS, M.D., READING, PA.

Cholelithiasis is not a malady new to the profession, nor is it one of those, frequently described in the journals, which it falls to the lot of the physician to treat only once or twice in a lifetime. On the contrary, it is a disease of frequent occurrence, and I apprehend that many attacks of biliary calculi are treated without a clear diagnosis having been made. The subject which I have chosen is therefore of practical interest to all engaged in general practice. I propose to give a brief review of a few cases selected from my records, with an exhibition of some specimens.

Gall-stones may form in the gall-bladder, in the bile ducts, in the bowels, and even, though rarely, in the parenchymatous substance of the liver. Their most frequent lodgement is in the gall-bladder. In size they vary from that of a grain of sand to that of a hen's egg. When of the smaller size they are called biliary gravel or sand. In number they may vary from a single one up to several hundred. Their chief chemical constituents are cholesterin, the coloring matter of bile, biliary and fatty acids, and some of the lime and soda salts. Their color depends on their composition, and may be pearly, greenish-yellow, brown or black mottled. They are usually fria-

* Read before the Berks County Medical Society, July 14, 1896.

ble, easily cut with a knife and of a greasy nature, feeling like soapstone. If there be only one large stone, its shape usually corresponds with that of the cavity containing it, being oval or ovoid. If there be three or four of medium size in the gall-bladder, they may be rounded on one side and flattened on the other like chestnuts in a burr. If there be a multitude in the biliary cyst, their general contour is globular, like those I exhibit to you, with facets on the periphery, indicating their points of contact with each other.

The etiology of gall-stones is obscure. In many of the cases which I have observed the subjects were not of the temperament that is usually called "bilious." Their origin is, however, believed to be due both to constitutional and local causes. Like all other pathologic formations, they start from a minute nucleus, and their growth is accomplished by a gradual accretion of their constituents, in layers, either by crystallization or by agglutination upon the surface. Stagnation of bile in the ducts and cyst, and a viscid condition of that secretion may greatly contribute to this result.

The presence of calculi in the hepatic cavities is not always menacing to life, and in many cases is not incompatible with fairly good health. Autopsies have shown the presence of large numbers in the gall-bladders of persons who had died of other diseases, and in whom no history of biliary calculi had been known. Then again, the stones may pass through the ducts, when yet small, without producing any epigastric pain, and be voided with the stools without the knowledge of the patient.

An attack of biliary colic is initiated whenever nature attempts to dislodge and pass through one of the biliary ducts a gall-stone having a diameter larger than the duct. This process may be inaugurated by the act of coughing, vomiting, inordinate laughter, strained defecation, etc., or by a fall or violent exercise.

Symptoms. — The most prominent symptom of a fully developed attack is the excruciating pain in the epigastric and right hypochondriac regions, often extending into the right scapular region and shoulder, as well as downward into the bowels. The extremities are cold, and the whole surface may be bathed in a cold, clammy perspiration. There is nausea and vomiting—sometimes persistent; a feeling of constriction of the chest; dyspnea and a sense of suffocation, with irregular respiration. The rate of the pulse is normal, or below, and labored; the temperature, subnormal. The sufferer often tosses about in bed or on the floor, with hands pressing upon the epigastrium, and moans or screams in agony. After the continuance of these symptoms, for an uncertain period—say from thirty minutes to three or four hours, or even several days—the torturing pain may suddenly cease. This usually indicates the escape of a calculus from either the cystic or the hepatic duct into the *ductus communis choledochus*, or from the latter into the duodenum. Sometimes, however, if the size of the calculus is greatly in excess of the caliber of the duct, it may slip back to its original location, as much to the relief of the patient as if it had escaped onward. If the original location had been the cyst, the stone may remain there for weeks or months afterwards, without creating any further disturbance.

Clay or ash-colored stools, jaundice, and bile in the urine, are other symptoms of importance. These occur only when a calculus is impacted in the *ductus communis* or in the hepatic duct. By the obstruction of the flow of bile into the bowels, the stools assume various light shades, as stated. By this obstruction, also, the bile is dammed up in the liver, and, in consequence of this backward pressure, that organ either ceases to secrete the bile from the blood or it is reabsorbed into the circulation, producing jaundice. Fortunately, the skin and kidneys assume the vicarious function of eliminating this foreign matter from the blood in the form of icteric urine and perspiration. When a gall-stone is impacted in the cystic duct, these symptoms do not appear, as in that condition the bile may continue to flow into the intestines through the hepatic and common ducts.

Diagnosis.—In the initial stage of biliary colic the affection may be confounded with cramp of the stomach, gastralgia, intestinal colic, renal calcu-

lus, and even, in some cases, with strangulated hernia. Differentiating circumstances, of course, exist; but, owing to a similarity in the condition of the pulse and temperature, in the pains, the nausea and vomiting, the cold perspiration and the inability of the patient to give an intelligent account of himself, a mistaken diagnosis may easily be made on a first visit. Later on, in the icteric cases, the clay or ash-colored stools, bile in the urine, and jaundice, make the case plain, and the voiding of stones confirms the diagnosis. A correct diagnosis is of the utmost importance in all severe cases, as it may ultimately aid the surgeon, whose knife is sometimes the *dernier ressort* in saving the life of the patient, when medical treatment has failed.

Complications.—When an impacted gall-stone has resisted all medical treatment for its removal, the period of dangerous complications has arrived, and the case is relegated into the domain of surgery. Chief among the complications are hepatitis, localized peritonitis, hepatic abscess and pyemia, ulceration from the cyst or ducts into some neighboring organ, general peritonitis from the escape of a stone, bile or pus into the peritoneal cavity, etc.

Since the recent advances in abdominal surgery, numerous successful operations have been performed for the relief of gall-stone and its complications. Dr. A. W. Mayo Robson, of England, who has operated about one hundred times, says: "A study of the cases operated on shows that where medical means have failed, surgery holds out a very good hope of success in nearly every complication of cholelithiasis, if the patient be not too much exhausted to permit of any major operation."

Medical Treatment.—When we are called to treat a well-marked case of biliary colic we should realize that we have on hand a very painful and formidable malady, which may, either primarily from shock, or secondarily as a result of associated complications, prove fatal. The treatment, therefore, must be prompt and energetic. This may be epitomized as follows: (1) Hypodermatic injection of one-sixth to one-fourth grain of morphine sulphate; (2) inhalation of chloroform and ether; (3) hot fomentations; (4) whether nausea and vomiting exist or not, frequent large draughts of warm water; (5) hydrarg. chlor. mite., grains five to eight; (6) two fluid ounces of pure olive oil every two hours; (7) alternating with the oil, grains fifteen to twenty of sodium phosphate; (8) the anodyne and anesthetic measures to be repeated when the pain demands it.

With reference to the *rationale* of this treatment I would say of the anodyne and anesthetics, and the hot external and internal applications, that the former not only render the patient insensible to the pain, but both they and the latter tend to relax the spasm of the ducts and thereby facilitate the passage of the stone. That olive oil dissolves cholesterin calculi, at a temperature of 98° Fah., outside of the body, I have demonstrated by experiment; and that it may insinuate itself into the ducts of the liver from the duodenum, if given in large doses, is quite probable. Whether it effects a slow solution of the stone, or facilitates its passage by lubricating the ducts, or by relaxing their spasmodic action, on the same principle that "oil on the troubled waters" stills them, I do not know. Nevertheless, I firmly believe that the oil is an efficient remedy in this disease. It is presumed that the oil should be a genuine, unadulterated article.

It is important that a thorough examination of the stools should be made in all cases. Every evacuation should be carefully washed, dissolved, and sifted, and this is a work that very few untrained nurses will faithfully attend to. The finding of the stone is no less satisfactory to the doctor for diagnostic purposes than to the patient for the knowledge that his enemy has departed. If a stone is large and has a smooth, rounded surface, we infer that no more are present in the cavity from which it came; if small and faceted, that more are to come.

Cases.—Mrs. W. B., aged sixty-seven, widow, was seized with an attack on May 8, 1892. After about ten days of suffering, during which time the usual symptoms prevailed, together with some pyrexia, the pain abated, and on May 23, she passed by the bowels the fract-

ured calculus which I exhibit to you in the box, which was entire when passed. The central crystalline part is pure cholesterin; the outer layer inspissated bile and fecal matter. It measures one and one-fourth inches in the long, and seven-eighths of an inch in the transverse diameter. Very little jaundice supervened during this first attack. The patient then improved and walked about the house and the yard. From June 15th to 22d she was again ill with symptoms simulating malaria, but again improved until July 1st, when she was seized with another fit of colic. In this spell the pains continued for several weeks, during which time gray stools and intense jaundice prevailed; hepatitis supervened, followed by abscess and pyemia, from the effects of which she died August 31st. The patient would not submit to surgical interference, and no autopsy was made.

My theory of this case is that the stone which I show you came from the gall-bladder, and that the second fit was occasioned by the impaction of another stone in the hepatic duct. This theory is strengthened by the fact that the voided stone is not faceted, and that light stools and icterus only occurred in the second fit.

Mr. G. J. E., aged sixty-nine, married, engaged in an active out-door occupation, of sanguine temperament and generally enjoying good health, in July, 1890, had a severe attack of biliary colic lasting several days, associated with ash-colored stools, bile in urine, icterus and the passage of half a dozen calculi the size of a pea. In July, 1891, while under treatment for fracture of the astragalus, he had another slight attack of colic, with light stools, but no icterus and no stones were found. His latest seizure began February 27, 1896, in which the colicky pains continued in variable paroxysms for four or five days. From the second day, icterus and bile in the urine appeared, with light stools, though not ashy. On the fourth day, calculi measuring from one-eighth to one-fourth inch in diameter, faceted, began to pass, and continued daily, in larger or smaller numbers, for four weeks. The total number found was 308, of which forty-four passed in one day. Along with these came about 150 granules of biliary sand or gravel, some of which I show you in the small vial. On the third day the pulse was eighty-eight, temperature 99.6, otherwise they were uniformly normal, except on the twelfth day, when a spurt of pyrexia ensued, with a temperature of 100.5, which was promptly arrested in a few days by cinchonization.

From the appearance of these calculi I infer that they had been lodged in the gall-bladder, and yet, while some of the colicky pains may have been produced by their passage through the cystic duct, there must also have been some obstructive impaction in the *ductus communis choledochus*, otherwise we should not have had light stools and icterus. There were no serious complications nor sequelæ in the case, and at this writing the patient is enjoying good health.

The treatment pursued in both these cases was substantially as that above outlined.

I present these two cases as of interest on account of the rather large size of the stone in the one case, and of the large number of them in the other. Larger stone and larger numbers in a single case have been reported, but they are rare.

DISCUSSION.

Dr. Landis distributed for inspection samples of gall-stones, one of which measured seven-eighths of an inch in diameter and one and a half inch in length. Another sample contained 308 specimens, varying from one-twelfth to one-fourth inch, with 150 smaller ones, both of the latter samples passed by a patient under the doctor's care. Also, two bottles were exhibited of olive oil, one containing a few grains of sediment, the other a partly dissolved gall-stone. A gall-stone measuring three-sixteenths of an inch, weighing two grains, had been placed in each bottle June 14. One vial was carried in the doctor's pocket (temperature 95°–98°) for five days, at the expiration of which time the gall-stone had entirely dissolved. The other vial, placed on the doctor's table, still contained one-half of the calculus undissolved.

DR. KEISER.—I know of no more important subject than diagnosis and treatment of biliary calculi, or the underlying cause which produces them.

There is a great difference of opinion in regard to the treatment. Ether and turpentine are worthless. The use of chloroform in small doses was exploded years ago by Troseau. The sovereign remedy is sodii phosphate, teaspoonful doses four times a day. It stimu-

lates the liver, promotes flow of bile, and prevents subsequent formation.

Wood recommended olive oil many years ago. You may have concretions passed during a course of olive oil which are not gall-stones, but the combination of cholesterin with the oil. The bile in children and adults is different in composition. That in a child does not contain so much cholesterin and has more solvent properties. The olive oil treatment is the treatment of quacks and charlatans. I remember a case of a friend of a friend of mine who was a spiritualist, and who answered an advertisement purporting to cure gall-stones. After sending $1 and a lock of his hair, he was recommended to take olive oil.

In almost all cases in which gall-stones are supposed to be present, and oil taken for their relief, concretions are found in the dejecta. The question is, Is this a case of *post hoc or propter hoc?* I don't mean to say the samples submitted are not gall-stones, but the circumstances seem suspicious; namely, the oil was given and the stones were passed.

DR. FRANKHAUSER.—I cannot understand how it is possible for the large specimen to have passed through the cystic duct and then by the common duct into the duodenum. The common duct is ordinarily not much larger than a crow quill. I have never seen any calculi the size of specimen in any autopsies where I have been present. I don't understand how the oil can pass up the common duct or how it is able to relieve spasm or reach the calculi in order to dissolve it.

I have found equal parts of chloroform and alcohol given in dose of teaspoonful every fifteen minutes in hot water quite as efficient as morphia to relieve pain.

DR. CLEAVER.—I would like to know how olive oil gets into the liver as olive oil.

DR. BEAVER.—I had a case seven years ago, very severe attack, jaundice, etc. I had read so much about olive oil I determined to try it. I got the patient to gulp down six ounces in the evening, in the morning six ounces more, and directed the feces to be watched. They brought me a great mass of material the next morning and I thought I had found a mine of gall-stones. I had the material examined and did not find a single crystal of cholesterin, and the supposed gall-stones resolved themselves into little pieces of soap. I object to making a soap factory of my patients. Another case I remember where the patient had chronic lithiasis, was losing flesh, etc., was treated with fifteen drop doses of chloroform for two or three months and got entirely well.

DR. ROBERTS.—I see occasional cases of gall-stones. I remember one case in the hospital some years ago which was given olive oil and sodium sulphate. The next morning they brought me a handful of something supposed to be calculi. I recognized immediately that they were not calculi. It was then supposed that they were portions of suppositories which had previously been administered.

DR. LANDIS' REPLY.—All I have to say to the objections made by those who, as the result of the administration of oil, get soap and no gall-stones, is that they must have been mistaken in their diagnosis. The fact that oil produces concretions with the fatty acids of the bile does not militate against its usefulness in dissolving the biliary calculi, and I see no insuperable objection to the possibility that the oil, being present in large quantities, should by peristalsis be forced up through the common duct.

A vote of thanks was given Drs. Roberts and Landis for their valuable papers.

SCHLEICH'S FLUID IN OPERATIONS ON THE CERVIX.

S. D. WEST, M.D., PHILADELPHIA.

In the latter part of last March Mrs. H., aged twenty-five years, mother of one child, twenty-two months old, came under my care, suffering of the usual nervous phenomena consequent upon lacerated cervix. Examination per vaginam revealed bilateral laceration; on the left, extending up to and involving vaginal attachment to the uterus; on the right, the cervix only. The anterior and posterior lips were greatly enlarged, indurated and everted, the lacerated surfaces covered with exuberant granulations extending up to and involving the endometrium.

As she was of a timid and nervous temperament, I did not acquaint her with the true condition of the cause of her suffering, but simply assured her that in the course of two or three months I could restore her to her usual health. (I, however, informed her mother of her true condition).

Her general system responded promptly to tonic treatment, and the local application of monochloracetic

acid followed by tampons of absorbent cotton saturated with 20 per cent. glycerole of ichthyol; the latter renewed every second day, the former every sixth or seventh day. Under this course of treatment, covering a period of some six weeks, she improved most rapidly, and became hopeful of a speedy recovery.

As the parts were now ready for the operation of repair, I told her that it would be necessary to close up the lacerations, and, in order to do so, it would be best for her to take an anesthetic, to which she objected, and I could bring no argument to bear that would have the effect of reconciling her to the operation under an anesthesia. Seeing that her anxiety over the operation was causing her to lose her lately acquired physical strength, I decided to use Schleich's fluid instead of ether, to which she assented with delight.

Consequently, on May 25th, assisted by W. C. Mitchell, I injected half drachm of Schleich's fluid into both the anterior and posterior lips, and in twenty minutes the parts were wholly anesthetized. Now, taking hold of the cervix, drawing down the uterus to the vaginal orifice, I pared off the lacerated surfaces, including the cicatrix, at the upper angle, and brought in apposition the freshened surfaces of the left laceration with two deep silk sutures and three superficial catgut sutures, and the right laceration with one deep silk suture and two superficial catgut sutures. The operation was not productive of much, if any, pain, the only complaint made by patient being of a "dragging down sensation across her hips," which was due to the tension made upon the uterus to hold it in a fixed position necessary to the operation.

Primary union followed; the sutures were removed on the fifth day, and on the seventh day I sent patient to the seashore for the season. She wrote me a few days later, saying that "she was getting along very nicely."

The freedom from pain during the operation, the ease with which the operation was performed, the absence of nausea and vomiting consequent upon the use of anesthetic, and the prompt union of the parts, is my apology for reporting so common and every-day operation.

I am free to say that in the future I shall use more Schleich's fluid instead of ether in the repair of lacerations of the cervix.

COMMUNICATIONS.

A NEEDED HOSPITAL.

The Memorial of the Committee of the Medical Society of the Commonwealth of Pennsylvania, to urge upon the Legislature the urgent necessity of a hospital for the acute, the convalescent, the chronic and the epileptic insane of the counties of Potter, Tioga, Lycoming, Clinton, Centre, Clearfield, Jefferson, Indiana, Cambria, Blair, Huntingdon, Somerset and Bedford, respectfully represents:

It is a maxim of Common Law, founded on sound common sense and eternal justice, that the guardian is bound to make the best provision possible for the comfort and welfare of his ward.

If the individual is thus bound to execute the law it follows, as a necessary inference, that the community and the Commonwealth, which is the sum total of all the communities within its limits, is also bound to a rigid execution of the same law.

The mentally disordered are the wards of the Commonwealth, and, while there may be some who by reason of peculiarly favorable circumstances may not be classed in that list, the great majority, differently circumstanced, require all the aid and support which the Commonwealth can give.

The citizens of this Commonwealth

have not yet risen to a full comprehension of the nature and extent of the mental disorders which prevail in different sections of the Commonwealth, and, for that reason, the provision for the care and treatment of those so afflicted has not kept pace with the number for whom such provision is really needed.

It is an undoubted fact that the first institution for the cure of this afflicted class was established by private munificence in Philadelphia in 1752, but the Commonwealth did not assume any such care until the establishment of the hospital at Harrisburg in 1845, the bill for the erection of which had passed several years before that date. An effort had been made in this direction in Philadelphia, between 1835 and 1840, but no distinct progress was made in it.

The steadily increasing population soon demanded more extended accommodation, but the absolute necessity of such extension was not fully realized by the law-making power, and while efforts in that direction were made from time to time, they did not reach to the full reality of the felt want and actual condition of affairs.

It is needless to go into the history of the establishment of the different hospitals for the insane in the Commonwealth further than to say that in the provision by each one, only a small part of the mentally disordered were provided for as they should have been.

When the Act of Assembly passed in 1883 went into operation, the committee on lunacy decided that all the insane in the poor-houses should be transferred to the different State hospitals, thus crowding the wards of each with a class for whom no medical or hygienic treatment could avail.

It was overlooked or forgotten that the steady increase of the mentally disordered would soon require more ample accommodation than was then provided, and that for this class of cases, occurring constantly in every community, such provision should be made as would give them the benefit of treatment at the earliest period, and thus more probably insure restoration.

It is a fact of daily, practical experience, that the sooner a case of mental disorder is placed under proper treatment, the more probable the prospect of restoration, and every month and year of neglect adds to the doubt. It is worse than useless; it is crime against humanity to calculate probabilities in such conditions. The disorder is there, it will go on its course steadily and regularly unless the proper means are used to check it, and all dallying with faint hopes of what may be but never comes, will only lead to distress and disappointment.

The wards of all the State hospitals for the insane are overcrowded, several of them greatly overcrowded, by reason of the number sent to them who have gradually become insane in former years, and as they have been better cared for in the hospitals than formerly, they have improved in bodily health, and are in better physical condition, with the prospect of long continuance.

The yearly admissions of each hospital will average two hundred, and the discharges much less, making in each hospital at the lowest estimate, an addition of fifty. The ratio of mortality will be about one-fifth of the whole number under treatment during the year. There are then three factors to be taken into consideration: The steady population of chronic cases, the yearly increase from those admitted who do not recover, and the number of acute cases which may be admitted.

Here, then, is a complex problem to be worked out, which requires more earnest thought and deliberate consideration than has heretofore been given to it, with the avoidance of all theories of those whose zeal is greater than their knowledge of actual conditions.

The first two items can only be changed by the mortality in the first, and the increase in the second by causes which cannot be reckoned on, so that the amount may be said to be very nearly stationary, leaving the third as the most important factor to be met in all provisions for the insane.

Mental disorders are often very insidious in their origin, and to be detected only by a careful study of the mode of thought, the conduct and conversation of the individual when compared with the state of mind of that individual when he was acknowledged to be in good mental and bodily health.

This stage is often very much neglected on the plea that it is only some eccentricity or peculiarity which, after a time, will pass away; but, unfortunately, it does not pass away unless proper care and treatment are adopted. To the neglect of this care must be attributed so many cases of mental disorder which the friends insist are quite recent, when, in reality, the aberration of mind and the peculiarities of conduct have existed for some time and are only admitted when a sudden outbreak calls attention to the existing condition.

It has been proved by the most extensive experience, carefully collated, that when treatment is commenced in the earliest stages of the disorder, like other diseases, mental disorders can be cured in the great majority of cases, unless there is some special organic disease. Experience and observation have also shown that restoration, unless in a few exceptional cases, can be more readily and certainly effected by treatment in hospitals properly organized for the purpose, than in private families. A large number of the insane who are now a burden on the community in consequence of long-continued insanity, would, in all reasonable probability, have been restored and become useful members of the community, if the means had been provided by which they could have had prompt treatment in the early stages of the disorder. The only certain mode of preventing the increase of mental disorders in those who now constitute the community, is to make such provision that all can receive careful and skillful treatment as soon as the symptoms of the disorder appear.

It is a fact established by universal experience, that the majority of the insane in any given hospital are derived from the section of country more immediately adjacent to that hospital, so that it may be regarded almost as an axiom, that a hospital should be placed as near as may be, convenient of access and supplies considered, to the centre of population of the district it is designed to accommodate.

But it has also been clearly established by careful calculations of the admissions in existing institutions, that one in 1690 of the population becomes insane in each and every year, so that in the same population there will be within a fraction of 180 who will become insane in that district in each year, and will need medical care and treatment. If that number have the requisite hygienic and medical treatment in the earliest stages of the disease, 144 will in all probability be restored, while thirty-six will remain insane or die. But where they are to receive that treatment it is impossible to say. A few may be accommodated in the already overcrowded hospitals in other parts of the State, but for the remainder the only prospect is the very dreary one of remaining insane for the rest of their lives, a burden and source of grief and annoyance to their families and the communities in which they reside. This is neither just nor humane. If the construction of a hospital could be commenced at once, it would require between three and four years to have it ready for the reception of patients, and in that time what an amount of distress and suffering must be experienced, and how many will be added to the already large number of chronic insane, chronic simply because they have been denied the right to receive that treatment which would have made them useful members of the community, and changed them from consumers to producers.

But the economic aspect of the subject demands careful consideration — the amount of money to be saved to the community by the prompt restoration of health and mental soundness. Every person becoming insane deducts so much from the producing power of the community, and is to that extent an incumbrance or mortgage on the property and income of the Commonwealth or some of its parts, collectively or individually, to the extent of the cost of his or her support, so long as the insanity shall continue. The individual's estate pays, if it can, but, if not, the public must, for the body politic is the bondsman for every one in sickness and poverty, to pay what he cannot.

The citizens are, very naturally, jealous and alarmed at any increase of the State debt; but here is an incumbrance on the property of the different parts of the Commonwealth, and a debt which should touch them with greater alarm and jealousy, and which they should insist on being discharged in full before

any other. This debt to suffering humanity, while not so prominently brought forward as the bonds are quoted on the exchange, is one which every prudent citizen, who looks to the best interests of the State, would seek and hope to have liquidated as promptly as possible, for the obvious reason that it is a heavy drain on the resources of the community, and while it continues to burden it, it by so much incapacitates its members from active investment of a profitable character. If it be asked in what the profit consists, it is readily answered: In the removal of so large a number from the class of consumers and placing them in the class of producers and tax-payers, and thus enabling them to aid in the development of the resources of that part of the State and add to its material wealth.

But it is not alone those who become insane who are a burden on the resources, but the majority of them have families who are dependent on their labor for their daily support; and if this support be withdrawn and not again renewed, these families will necessarily become an additional burden on the community in which they reside, and thus abstract so much more from the ability of that portion to add to the general wealth.

The irresponsible character of insane persons, and the risks to families and the community from the perverted fancies of so many of this class, demand that means be provided for the full protection of the community from all danger to life and property which may be likely to rise from this source.

The cost of keeping an insane person at home, in a poor-house or a jail, is not less than three dollars a week on the average, and this must be multiplied by as many weeks as the insanity shall continue. The average duration of life of an insane person, not cured, attacked between twenty and thirty, is 21.31 years; attacked between thirty and forty, is 20.64 years; attacked between forty and fifty years, is 17.65; that is, an insane person, when taken near twenty to thirty years old, will, if not restored, live on an average, 1118 weeks, and will cost $3,354 for his support. Those from thirty to forty when taken, will live 1073 weeks, and cost $3,219; and those who are from forty to fifty when taken, will live 717 weeks and cost $2,151.

These are sums which the people must pay; they are debts incurred the moment the man becomes insane, and are a mortgage on the public property until these patients are restored. This, however, is not all the cost of insanity neglected and uncured; the Commonwealth loses all the services of these men, all that they would have earned during a sane life if restored. The probable longevity or average time sane men live, after twenty to thirty, is 39.12 years; after thirty to forty, 32.76 years; and after forty to fifty is but 26.06 years. Then the public must not only pay the cost of supporting an uncured insane person, when between twenty to thirty years for 1118 weeks, but lose his earnings for 2034 weeks. The earnings of course, will vary with person, capacity, position and circumstances. In England, the prospective earnings over and above the cost of support of an unskilled laborer at twenty-five years of age, are worth $1,157; that is, an annuity equal to this profit on his labor through his probable life could be bought at that age for this sum. The earnings are more in America; the cost of living for laborers and others, is about the same; hence the profits of life are greater and the annuity worth more. We may safely add fifty per cent. more, and estimate the annuity as worth at least $1,800 for the unskilled laborer; for the mechanic, trader and professional man, is is worth more.

Then, if an unskilled laborer becomes insane at twenty-five, this annuity is lost to himself, to his family and the body politic, unless he be restored and the annuity regained.

Let us next consider the cost of restoration. For those whose disease was less than one year before admission, the period of restoration has been found, on calculation of returns, to have been somewhat over five months. But if taken earlier and treated as promptly as fever, pneumonia, etc., the time required for cure is much less. The cost of this restoration, even including interest on the hospital and all other expenses in our State institutions, will not exceed five dollars a week; that is about

$130 for each person restored. If taken early, 80 per cent. at least can be restored, and 20 per cent. will either die or remain insane for life.

The recent cases of insanity are always more expensive to take care of, from the greater attention required, their disposition to destroy clothing, furniture and fixtures. The cost of the curative experiment must include both that paid for those who are curable, and for the attempt to restore the incurable during an average period, required to determine the question of their curability—say two years; or for such as are restored to power, $200.

It must, however, be remembered, that this estimate of the cost allows the whole expense of the hospital to be five dollars a week for each patient. In calculating the cost of a cure, we should only include the increased expense of support for this purpose, over and above what must necessarily otherwise have been incurred. Whether they cure or attempt to cure or not, the public must pay three dollars a week for the patient's support, and the curative experiment costs only two dollars a week in addition, and only so much then should be charged to place and means of restoration. The cost then should be stated as $104 for each one restored. Taking the English calculations of the present worth of a laboring man at twenty-five, and adding the difference of earnings in this country, an annuity equal to the excess of his earnings over the cost of his support through his probable average life, thirty-nine years, can be bought for $1,800. The present worth of the cost of his support, if insane, $150 a year, through his probable insane life, twenty-one years, will be $1,834. Both these are lost, equal to $3,634, if the man is attacked with insanity and not restored.

Such being the facts of the case, the advantage and economy in every point of view of treatment in the early stages of the disease, the necessity of special provision of that treatment, the overcrowded condition of all the hospitals for the insane in this State, and the consequent inability of the citizens of the counties of Potter, Tioga, Lycoming, Clinton, Centre, Clearfield, Jefferson, Indiana, Cambria, Blair, Huntingdon, Somerset and Bedford, to secure admission for those of their fellow-citizens who are now suffering from this most afflictive of all diseases, and for those who may become insane in the course of the year to come, and in subsequent years, the Committee feel that they cannot too strongly urge upon your honorable body the necessity for the passage of a bill at an early day, providing for the appointment of Commissioners to select a site and build a hospital for the insane of these counties, which will be an ornament to the Commonwealth and will confer untold benefit on this section of our beloved Commonwealth.

JOHN CURWEN,
S. S. TOWLER,
H. G. MCCORMICK,
T. D. DAVIS,
JAMES FULTON.

NOTE.—The vital statistics given in this memorial were prepared many years ago by that eminent vital statistician, the late Dr. Edward Jarvis, of Massachusetts, and have been used in other memorials of this character in this State at long intervals.

The cholera returns show that the epidemic is well on the decline in Egypt, the weekly mortality having fallen from 2,000 to 600 throughout all Egypt, and there being only 133 cases remaining in all the hospitals. The vigorous measures adopted by the Sanitary Department have, according to the *Times* correspondent, allayed the momentary anxiety caused by the recent small outbreak in Cairo, where on September 12th only fourteen cases with twelve deaths were reported, showing a diminution of 50 per cent. during the week. Tradesmen and others are, however, despondent less needless fear should greatly diminish the numbers of the usual winter tourists, although the risk of infection to Europeans is practically ended, and everywhere the epidemic shows a marked decline day by day. The English chief of the Sanitary Department states that it is the official opinion that by November or December the epidemic will have completely disappeared.—*British Med. Journal.*

CURRENT LITERATURE CONDENSED.

Hydrozone in Gastric and Intestinal Disorders.[1]

A period of nearly twelve years has elapsed since I first began the clinical use of hydrogen dioxide, generally referred to at that time as the peroxide of hydrogen. In 1887 I published a paper giving a detailed account of several cases in which it had been employed by inhalation, but even then I was thirty years behind the report of Dr. (now Sir) Benjamin Ward Richardson, of London, who had made a thorough investigation of its antiseptic, detergent, and healing properties. Notwithstanding the fact that this preparation had been known to the medical profession for that length of time, it had achieved little or no reputation. This, however, may be explained by the fact that the discovery preceded the dawn of bacteriology. Indeed, I was one of the early contributors to medical literature relating to the clinical value of this product, and since that time I have published a number of articles, embracing practically every application, both medical and surgical, to which hydrogen dioxide is adapted.

In the present communication it is my object to direct the attention of the profession to its special value in the treatment of gastric and intestinal disorders. In gastritis, for example, there is no antiseptic which can be given with so much benefit as this remedy, because its effect is immediate, and even in considerable doses it is absolutely harmless. The same is true in regard to its employment in typhoid fever, cholera infantum, and Asiatic cholera. In the latter disease its efficacy has been thoroughly demonstrated by a number of well-known physicians, and its applicability in cholera infantum is well known to those physicians who have given careful attention to the most modern methods in the treatment of this class of cases.

The following brief notes will be sufficient to indicate the availability of this remedy in the treatment of the disorders already mentioned, although, in view of the fact that hydrozone is a more concentrated product, and withal a permanent solution, this latter remedy should have the preference. It contains at least double the volume of nascent oxygen which has heretofore been the standard for the medicinal peroxide of hydrogen.

In gastritis, either acute, subacute, or chronic, we have to deal with an unhealthy condition of the lining membrane of the stomach. The inflammation is attended with an increased output of mucus, which seriously interferes with the normal functions of the peptic glands. By the introduction of a small quantity of hydrozone, in the strength of one part to thirty-two parts of boiled or sterilized water, this objectionable mucus is at once destroyed by the action of the oxygen which is released, and the contents of the stomach remaining are promptly discharged into the small intestine. A patient suffering from gastritis should take at least half an hour before meals from two to four ounces of diluted hydrozone (one to thirty-two) and lie on the right side so as to facilitate the action of the stomach in discharging its contents. In chronic cases with a large output of gastric mucus, and particularly in gastric ulcer, concentrated solutions are not well borne at first, owing to the formation of oxygen gas, but this difficulty disappears with the continued use of the remedy, and no treatment of gastric ulcer can be regarded as complete without the local employment of hydrozone.

The antiseptic properties of hydrozone thus used are sufficient to destroy the micro-organisms and leave the stomach in a healthy condition for the absorption of nutritive pabulum. All forms of fermentation are promptly subdued by the active oxidation resulting from the liberation of nascent oxygen. The patient is then in a condition to take suitable food, which should be nutritious and easily digested, liquids being preferred until the active symptoms have subsided. Later, small portions of solid food can be ingested, but all food stuffs of a starchy character must be thoroughly masticated, in order

[1] Aulde in *New York Medical Journal.*

to secure the action of the salivary secretion upon the starch granules, breaking them up, and lessening the tendency to fermentation in the stomach. After taking a meal, a patient with gastritis should follow it with medicinal doses of glycozone, which contain, in addition to the nascent oxygen contained in hydrozone, a percentage of glycerin which favors osmosis and assists in re-establishing the functional activity of both the peptic and mucous glands of the organ.

In the treatment of cholera infantum, typhoid fever and Asiatic cholera, the same general plan should be adopted in dealing with the stomach, always bearing in mind the necessity for having the patient remain in the recumbent position and on the right side for at least half an hour after the ingestion of the solution. In addition, however, to the preliminary treatment of the stomach, the same solution (one to thirty-two) is used as an injection into the lower bowel, care being exercised to insure its introduction as high up as possible. This can be managed by having the patient lie on the left side, with the hips well elevated, and the employment of a long, flexible rectal tube. In this manner we secure and maintain an antiseptic condition in both the stomach and large intestine, the importance of which will be understood when we consider the large number of micro-organisms which grow under these favorable conditions with such remarkable rapidity.

When deemed advisable, the solution introduced into the lower bowel may be combined with large quantities of either hot or cold water, which enables us to obtain the benefits of irrigation in addition to the antiseptic effects. These irrigations may be employed as frequently as deemed advisable by the medical attendant, but they will usually prove satisfactory if administered at intervals of four hours.

The Sunday Penalty of Irregular Feeding.[2]

The American people pride themselves on being enlightened and highly civilized, using their reasoning powers to such advantage that by systems of quarantine, vaccination, etc., they are able to exclude or control almost all epidemics of infectious diseases. These intelligent people would resent a statement that in some of their routine customs they were only slightly above the level of barbarians, yet the unhappy truth remains that such a statement may be made without fear of refutation.

In our evolution from barbarism we have created or established a race of people with whom regularity in eating and sleeping is the fundamental essential to good health. The digestive secretions are poured out and ready for action with the regularity of clockwork, so that a man can tell by his feelings almost the minute at which his dinner hour comes. If this regularity, so long established, is violated, and the regular dinner hour is passed without food being ingested, the violator not only suffers bodily discomfort, but an actual injury occurs to the digestive apparatus. The stomach and other secretory organs resemble the muscular system in a certain degree, as they must have a certain amount of work to perform in order to keep in the best working condition. Also, like the muscular system, overexertion leads to disorder, and disuse invites a variety of pathological conditions. But, unlike the muscular system, the digestive organs have been so educated by custom that they require, not only a definite amount of work to perform, but an absolute regularity in the time of performing that work. The gourmand who overtaxes his stomach is certain to meet his retribution. The drunkard who stimulates the mucous membrane of his stomach with alcohol and gives his secretions nothing to act upon in the way of solid food, finds shortly that his stomach refuses to secrete at all, as just punishment for his abuse and negligence. Almost as certain a result, if not so rapid, is sure to follow indiscretions of irregularity in eating. The stomach, having poured out its secretions at the customary time, waits only a short time before it allows such secretions to be absorbed without the accompanying production of nutritious pabulum that goes to assist in the formation of more secretions. After a few such experiences the secretions become less in amount and in activity, even when food is introduced into the digestive tract, and we have resulting

[2] Editorial in *Medical Record.*

indigestion, so common in all communities.

The dyspeptic is cautioned and advised by his physician to take his meals at absolutely regular intervals, not only as a treatment of existing evils but as prophylactic against future disorders. One indiscretion of irregularity in such cases often causes the patient a week of misery. If this regimen is a standard prophylactic with confirmed dyspeptics, how much should any one in our artificial civilization allow himself to deviate from so simple a rule, when an absolutely normal stomach at all times is almost unknown?

Yet this very invitation to gastric disorders is issued every seventh day by ninety-nine per cent. of the people of this country. Once in seven days comes our so-called day of "rest"—the day on which the three regular meals at morning, noon, and night are replaced by a vicious system of late rising and abstinence, followed by gluttony. The gastric secretions know nothing of a seventh day of rest. They are ready at the customary six-day morning-breakfast time, but no food comes to them and they are absorbed. A second period of the day comes and the same process is repeated, with the additional injury that from two to four hours after the customary meal the stomach is loaded unusually full of food, whereas the secretion is no longer there in sufficient quantity to digest it. The result is the regulation Sunday afternoon discomfort of gourmandizing, with the accompanying absence of appetite for the evening meal. What wonder that the following day is "Blue Monday!"

The Continued Increase of Cancer.[3]

In 1840 cancer caused 2,786 deaths, the population being 1 in 5,646 of the total population, 1 in 129 of the total mortality, or 177 per million living.

In 1894 it caused 21,422 deaths, the proportion being 1 in 1,403 of the total population, 1 in 23 of the total mortality, or 713 per million living.

Thus the proportional mortality now was more than four times greater than it used to be half a century ago. In this respect its position was unique; no other disease could show anything like such an immense increase. It seemed certain that, if unchecked, cancer would ere long become one of the commonest diseases of modern communities. The subject was one that required thorough investigation on a larger scale than could be undertaken by an individual. It was a matter of national concern.

Mr. Williams then referred to the remarkable decline in the death-rate from phthisis and tuberculous diseases that had coincided with this great increase in the cancer mortality. It seemed to him exceedingly probable, from considerations derived from the study of the family history of cancer patients, that a large proportion of those thus saved from tubercle eventually perished of cancer and insanity, and he thought that the increase in the latter diseases had largely been brought about in this way.

In discussing the causation of these extraordinary occurrences, Mr. Williams said, although we were not in a position to solve the problem in a thoroughly scientific manner, that we need not be deterred on this account from formulating such explanatory conceptions as, after careful study of the subject, seemed likely to be useful. He thought it improbable that such conditions were directly ascribable to any single causative factor. The conclusion he had arrived at was that the increase of cancer had sprung out of impulses generated by the sudden and violent environmental changes associated with the transition from the agricultural to the industrial mode of life, which certainly was one of the most profound and far-reaching vicissitudes that the human race had ever experienced. Industrialism acted injuriously on the health of those exposed to its influence by inducing certain degenerative changes, which rendered those effected incapable of properly resisting tuberculous and other morbid excitations. He believed that defective cellular metabolism was at the bottom of these changes; and this was the common root whence such diverse morbid manifestations as tubercle, cancer, and insanity sprang. In times of national prosperity the evil effects of industrial conditions of life were to a certain extent mitigated by sanitation, good feed-

[3] W. Roger Williams, F.R.C.S., Preston. *British Medical Journal.*

ing, etc. Thus many of those who had acquired morbid predisposition nevertheless escaped destruction. It was from these persons and their descendants that the great cancer army was constantly being recruited. Hence there was some truth in the curious paradox that a high cancer mortality was an indication of good sanitary conditions. No single factor was more potent in determining the outbreak of cancer in the predisposed than high feeding. He thought that the gluttonous consumption of meat, which was such a characteristic feature of the age, was especially harmful in this respect. Statistics showed that the national meat consumption had now reached the amazing total of 126 pounds per head per year. When excessive quantities of such highly stimulating forms of nutriment were ingested by persons whose cellular metabolism was defective, Mr. Williams thought it likely that it might excite in those parts of the body where vital process was still active, such excessive and disorderly cellular proliferation as would eventuate in cancer. No doubt other factors co-operated, and among these he would be especially inclined to name deficient exercise in the open air.

A Case of Tuberculosis by Ingestion in a Little Girl of Sixteen Months.[3]

The parents of the patient were healthy; among ten children, one girl of three years had died of tuberculous peritonitis; another was affected with coxalgia. The patient, when nine months old, had been treated for tuberculous adenitis. When she came to the Children's Hospital she was in a cachectic state; large ganglia of the neck, profound ulceration of the superior gums extended to the palatine arch; nothing abnormal found in the examination of the thorax. There was a microadenia in the inguinal regions. The belly was distended and furrowed by large veins; there was diarrhœa, but no fever. The child died a few days after entry into the hospital. At the autopsy very large tuberculous mesenteric ganglia were discovered. Several large ganglia were also seen, adherent in the ileo-cecal angle; the ileo-cecal valve was completely surrounded by a tuberculous ring of ulceration; there was a slight ulceration in the cavity of the appendix. The whole length of the ileum was covered with large irregular ulcerations; these latter lesions were less numerous upon the jejunum and the duodenum. Nothing abnormal in the liver, the spleen or the kindeys; there were some transparent granulations upon the lungs.

3 Translated for St. Louis Clinique by Rutherford Gradwohl.

Being requested to make a five-per-cent. solution of cocain in lard-oil recently, C. E. Sage (*Pharm. Jour.*) found that the alkaloid was scarcely soluble in that liquid, except at the temperature of a water-bath, and even then it took some time to dissolve, and on cooling, the alkaloid crystallized out again. Some authorities state that cocain is soluble in one in twenty of vaselin, and the author has many times prepared such an ointment; but the fact that the alkaloid crystallized out from a lard-oil when dissolved in it in the same proportion suggested the microscopical examination of some "vaselin-cocain," one in twenty, with the result that it was found to consist of a mass of minute crystals, interspersed with vaselin. The vaselin used for preparing the ointment showed no crystals when examined in the same manner, and a chemical examination of the cocain used showed it to be pure. An ointment was made of the same strength with lard, and, examined microscopically directly it was set, showed no signs of any crystals of cocain; but after standing two hours, the alkaloid began to crystallize out in well-defined crystals. Solutions in olive oil and in castor oil were also made, and found to be perfectly stable. From these results it seems that neither vaselin nor lard is a suitable solvent for the preparation of an ointment of cocain; and that the idea that such a preparation is better than one containing the hydrochlorate dissolved in a little water and rubbed up with the fat, is fallacious.

"Business is in pretty poor shape," remarked the energetic man. "Yaws," replied Cholly Dawdle. "I've always heard it was bad form."—*Washington Star.*

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, NOVEMBER 7, 1896.

EDITORIAL.

THE *ARGUMENTUM AD HOMINEM* STILL THE MOST EFFICIENT METHOD.

There is a useful but somewhat exasperating quadruped whose logical processes begin with the reception of a blow and, after the sensory nerves have carried their message to the brain, end with the discharge from the cerebral cells of a motor impulse. Although the ultimate product of an "ass-ending" evolution, this animal cannot, as a rule, reason from analogy. It is not enough for him to observe that certain sins of omission and commission on the part of his brethren are punished by the goad or the fence-rail. His acts must be in response to sensory disturbances in his own skin. Neither does he possess the faculty of reasoning for the present from the experience of the past. The fact that he was beaten yesterday may, perhaps, be remembered, but it does not serve as a warning to act to-day in anticipation of a blow. Neither are his nerve-corpuscles capable of education to the point of appreciating and acting in accordance with a mild stimulus. Not only must the blow fall on his own hide, and at the time when action is desired, but he must be hit hard. The necessity of combining these three factors to initiate mental processes is due to a

characteristic briefly termed obstinacy, a trait not only of these four-footed animals, but, in sooth, of many human beings.

If the quadrupedantic philosophers could speak as loudly as do the bipeds, they would, perhaps, excuse their slowness to take a hint from the experience of themselves or others, by some such argument as the following, which, we believe, we have heard in substance from many men who call themselves conservatives: "True, I have seen Thomas, Richard and Henry pounded with clubs because they were balking, and have seen them finally forced into action, but there may have been circumstances in their cases with which I am not conversant and which, doubtless, vitiate the conclusions apparently to be drawn from their fate. Moreover, we must not be led astray by the fallacy of *post hoc, ergo propter hoc.* The fact that they balked and were beaten, then pulled ahead and ceased to be beaten, is undoubtedly to be explained as a mere coincidence. Then, too, in awaiting the actual fall of the blow and in heeding it only when it is severe, do I not show my fortitude?" And so, poor John, walking with his comrades three abreast along the bank of the Erie canal or pulling a street-car in a southern city, remains the incarnation of that mental attribute to which we have alluded.

Small-pox, a disease which has scourged the world for centuries, which once decimated populous cities and left its disfiguring brand on the faces of most of the survivors, has become practically an extinct disease. Let us place ourselves in the attitude of the most violent opponent of the method to which this extinction is attributed and see how far we can withstand the brute force of facts. The attempted prevention of variola consists in an operation more or less bloody and cruel, to which fanatical believers first subjected themselves and sacrificed their innocent children; then, growing stronger in influence, they secured the passage of laws which now, in every civilized country, with an absolute disregard for personal liberty, compel all persons to undergo this heathenish torture. Not only temporary suffering, but actual disease is inflicted, lasting for two or three weeks and terminating, once in a million times, in death. Not only does physical nature resent the pain and discomfort of vaccination, but the spirit cries out against accepting disease from a brute animal. The sufferings of the heifer, the agony of the child, struggling against the knife rasping at his tender flesh, the black velvet band, which the belle in evening dress wears as a badge of mourning for the disfiguring mark upon her left arm, all these and more distressing pictures arouse our deepest sympathy and indignation; but, on the other hand, we note the increasing rarity of the pock-marked face, the removal of one of the greatest plagues which has kept down the population of the world and, if common sense is left to us, we repent our hysterical hyperboles and bare our arms to the kindly, cruel lancet or ivory point.

We need not reiterate the unanimous verdict of all experimenters with vaccination in all lands. The fact that an experienced physician may unblushingly confess that he has never seen a case of variola, and that its rare appearance as a serious disease in the present age is due unexceptionally to neglect of the proper prophylaxis, is all that is necessary in addressing our circle of readers.

The latter misfortune has recently occurred in a small city of England, which, within historic times, had again and again seen the scourge fall upon the

shoulders of others, had again and again felt it on its own flanks, and which, in this present year of enlightenment, ignored the mild tap of the goad, but finally started when the stinging pain of wholesale affliction had crawled through its sluggish nerves and aroused its obstinate centres. The lesson is a severe one, and one by which more lucky though perhaps equally perverse communities may well profit. It is noteworthy in this instance that the afflicted town has suffered not from official apathy and procrastination—the first explanation thought of in similar catastrophes—not because the people had forgotten their pock-marked ancestors and the extinct collateral branches of their families, not from mere heedlessness of the existence of smouldering foci of infection. Unless the reports which we have received are incorrect, the outbreak of the epidemic at Gloucester was due to a deliberate and premeditated discontinuance of vaccination, an obstinate refusal to believe the overwhelming testimony of statistics and an organized attempt to balk the efforts of sanitary science.

The statistics of the Gloucester epidemic may be of interest. During the last ten years, the anti-vaccinationists had gained such influence that, out of 15,682 children born, only 2,378 had been vaccinated. In this town of 40,000 inhabitants, 2,036 cases of small-pox occurred, with 443 deaths. Seven hundred and fourteen of the cases occurred in persons under ten years of age. Twenty-five of these 714, had been vaccinated and one died. Of 688 unvaccinated children having small-pox, 279 died. No information is at hand regarding the perfection of the vaccination nor the time that had elapsed. An attempt was made to refer the epidemic to the sanitary condition of the city, but the city surveyor, who appears to be a reconstructed anti-vaccinationist, states that the sanitary condition has been excellent and that the prevalence of other infectious diseases has been unusually low. We have heard of some animals that could be driven only with a goad that had a nail fastened into the active end. The nail in the end of this argument is that the progress of the disease stopped short after general vaccination was carried out.

Such lessons as that of the Gloucester epidemic are dearly bought. It is no satisfaction to say "I told you so" to the rigid form of a man killed by his own carelessness and recklessness. But when the obstinate refusal to profit by experience and the warnings of history, involves the death of innocent and irresponsible victims as well as of those who are responsible, the disaster is truly awful.

ONE MAN HIS OWN TRUMPETER.

The question of professional advertising was precipitated at a recent meeting of a neighboring state medical society, by the display of an "Announcement Card," which provoked much comment and unstinted condemnation. As the document emanated from one fully entitled to practice under the laws of the State, but not amenable to the action of the state medical society, that body was powerless to do more than express disapproval. The announcement card itself is unique for a delicate "peach blow" hue, for definite statement of professional qualifications, and for distinctive literary style.

For the enlightenment of the profession the REPORTER reproduces the announcement, *verbatim et literatim et punctuatim*, save that the name given is euphuistically substituted and the address is omitted in the interests of the locality.

DR. I. M'ELLON FITS-UBET.

ANNOUNCEMENT CARD.

Having finished my Post-Graduate and special Hospital Surgical course, I am ready to resume my labor at the above address. My Hospital practice has been largely upon patients with chronic diseases that local physicians have failed to cure, and were sent to the hospital for medical and surgical treatment.—I propose to make a specialty of chronic and long-standing diseases.

Patients living at a distance can be treated by mail by describing their ailments and afflictions in full. This enables all aged feeble patients to obtain hospital treatment at their own homes. What is meant by long-standing, chronic diseases are such as *troublesome indigestion and dyspepsia, heart, lung, liver, kidney, skin and nervous diseases, rheumatism, tumors, cancers, diseases of women, etc.*, which are over four weeks standing.

The above specialty does not interfere with consulting me about any disease or trouble you may suffer with. I am ready to treat the whole 797 diseases that are said to exist.

Consultation Strictly Cash.

ABSTRACTS.

SEASICKNESS: ITS CAUSE AND RELIEF*

In a trip across the Atlantic I had observed the entire absence of all symptoms of seasickness in a party of five deaf-mutes. Indeed, their freedom from any annoyance of the kind, and the excellent appetites they enjoyed and gratified, while others around them were suffering from seasickness, excited general comment. Inquiry elicited the fact that deaf-mutes so rarely suffered from seasickness, as to be, as a class, practically free from the disorder under all circumstances. It was learned that out of a party of twenty-two deaf-mutes who crossed the Atlantic two months previously, not one suffered in the slightest degree from any form of seasickness, and yet a number of other passengers succumbed to it. Later, this party crossed that most trying of all bodies of water, the English Channel, and the same immunity was observed, though the passage was a rough one, and almost every other passenger on board became seasick. I was also told that a gentleman once made the trip from San Francisco to Portland by sea, with about thirty other deaf-mutes, that only one of these suffered from seasickness, and he had some disease of the ears which often caused dizziness and nausea at other times.

When it is remembered that only about three per cent. of persons crossing the ocean are entirely free from seasickness, it becomes evident that there must be some special cause for this freedom from it in deaf-mutes; and as the condition of the ears constitutes the only difference between the deaf-mute and the ordinary individual, it is naturally sought here.

It may be well to recall the fact that both physiological experiment and pathological observation point to that part of the inner ear known as the semicircular canals as exercising a controlling influence over the maintenance of the erect posture and the sense of equilibrium—functions frequently disturbed on shipboard.

It is generally conceded that seasickness is produced by the frequent and rapidly changing motions of the ship—

*James L. Minor, M.D., Memphis, Tenn., *New York Medical Journal.*

conditions which it is the function of the semi-circular canals to recognize and influence. Symptoms very similar to those of seasickness can be produced by turning around rapidly and frequently, or by swinging, and the cause is probably the same in each instance. And in diseased conditions of certain parts of the inner ear—the semicircular canals, in Ménière's disease—the symptoms are somewhat like those of seasickness.

Certainly if the foregoing deductions make probable the theory that the semicircular canals are sometimes concerned in the production of seasickness, then reasoning by induction establishes it beyond a doubt.

Deaf-mutes do not become seasick, nor do they suffer inconvenience—dizziness or nausea—when turned rapidly around, or when swinging. Moreover, it is a well-known fact that only in the irritative form of disease of the semicircular canals do dizziness, etc., appear, and that destructive disease of these parts does not produce either dizziness or nausea. Moos reports a case in which, after the falling out of a necrosed semicircular canal, deafness appeared, and with it permanent cessation of severe dizziness. And I have observed the same thing in one of my patients.

In deaf-mutes there is absolute deafness, or very great reduction in hearing, dependent upon destruction or serious impairment of function of the peripheral distribution or sound-perceptive elements of the auditory nerve, in which process the semicircular canals are included.

These facts must force one to the conclusion that the reason why deaf-mutes do not suffer from seasickness is owing to the fact that their semicircular canals are destroyed or their sensibility impaired; and it is equally rational to suppose that others who suffer from seasickness do so because they have semicircular canals which are irritated by the frequent and varied motions of the ship.

Now, if by the use of any agent the semicircular canals can be anesthetized, the value of these conclusions would be settled at once. I suggested the use of oleate of cocaine, putting a few drops in the ear every day or two, or oftener, if necessary. Living in an interior town, however, I have had no opportunity of trying the drug in genuine cases of seasickness, and have had to limit myself to the induced and certainly allied affection—the dizziness and nausea produced by rapidly turning around. The results obtained have surpassed my expectations, and certainly suggest that the local use of cocaine in the ears may prove a most valuable remedy against that *bête noire* of ocean travel, seasickness.

I experimented with twenty-four healthy-eared individuals, and found that forty revolutions to the minute constituted rapid turning; that three or four such revolutions were sufficient to cause dizziness and often a sense of nausea; that three drops of an eight-per-cent. solution of cocaine oleate, dropped into each ear, diminished the susceptibility to dizziness, etc., to such an extent that more than double the number of revolutions could be made before any inconvenience was felt; that when, from continued turning, the dizziness, etc., came on after the the use of the cocaine, it was less pronounced and more transient than without it.

The effects of the cocaine begin to manifest themselves in from twenty minutes to half an hour, and last from four to six hours.

I should say, then, that seasickness was a manifestation of irritation of the semicircular canals caused by the frequent and varied movements of the ship; that any drug which will lessen the irritability of the semicircular canals was a rational remedy for seasickness, and that a solution of cocaine dropped into the ears was such a remedy.

"The Amazons," exclaimed the courier, hurriedly, "are anxious to advance and throw themselves into the breach." The King of Dahomey knit his brows. "Do you think it would be safe?" he mused; "you know how it is about women throwing."—*Detroit Tribune.*

Peaceful Peters—Yes, me young friend Walker entered into rest de twelft of August, 1896.

Languid Laurence—Wot's got yer Peters? He ain't dead yet.

Peaceful Peters—I know he aint. Dat was de date of his birth.—*Life.*

THE HOUR OF DEATH.†

As this subject has lately been discussed in the press, it may be useful to draw attention to the attempts which have been made by competent observers to compile reliable statistics to throw light on the question. It is very difficult in comparing these statistics to come to any definite conclusions, as the tables have not been prepared with any uniformity. If some understanding were come to beforehand as to the exact form in which such tables should be compiled, it would be well worth while to get a series of observations from different parts of the country, and see how far the curves represented by such tables would coincide. One of the best papers in English is that published by Dr. Finlayson.[1] The statistics used in this paper were put together by Mr. West Watson, the City Chamberlain in Glasgow, and consisted of the 13,000 deaths which occurred in that city during the year 1865. Taking the deaths as a whole, it is found that the greatest number occurred between the hours of 4 and 10 A.M. This agrees roughly with the results of a very elaborate calculation by Dr. C. F. Schneider[2] based on 57,000 deaths in Berlin. Dr. Finlayson's curve reaches its highest point between the hours of 5 and 6 A.M., and Dr. Schneider gives his greatest mortality as occurring between 4 and 7 A.M. This is again corroborated by Berens,[3] who found that in 1,000 deaths in Philadelphia the most fatal hour was from 6 to 7 A.M. It is interesting to compare the conclusions of Dr. Finlayson and Dr. Schneider in the following table:

Proportion of Deaths per 1,000.

	Deaths	A.M.			P.M.		
		12—4	4—8	8—12*	12—4	4—8	8—12
Watson (Finlayson)	13,854	159	180	174	162	166	159
Schneider...	57,984	169	191	169	152	163	157

* Noon.

† *British Medical Journal.*

[1] *Glasgow Medical Journal*, New Series, vi, 171.
[2] *Virchow's Archiv*, xvi, 95.
[3] *Philadelphia Medical Times*, v, p. 420.

The figures of both Dr. Finlayson and Dr. Schneider show a peculiarity as regards the hours 11 and 12 P.M., and 12 midnight to 1 A.M. In Glasgow the deaths between 12 and 1 were 474, and in the previous hour, 11 to 12 P.M., 611. The Berlin figures for the same periods are 1,867 and 2,629. Dr. Finlayson thinks that this incongruity is accounted for by the fact "that the public might incline to put cases occurring at this doubtful time within the day on which they had been watching for the fatal event." It is quite obvious that, taking all the circumstances into consideration, very little reliance can be placed on the returns as to the exact hour of death. The same incongruity appears from a series of deaths at the Glasgow Town Hospital, but, curiously enough, the balance is on the opposite side. Dr. Finlayson's explanation for this is "that the officials at a workhouse might be supposed to prefer to return such ambiguous cases for the fresh day on which, as night nurses, they were entering." This difference between hospital statistics and those of deaths in private houses is borne out by some figures of Dr. Steele,[4] in an article on patients treated at Guy's Hospital, 1854–61. There he shows that between 11.30 and 12.30 there were fifty-eight deaths, and between 12.30 and 1.30, 111 deaths. It is pretty plain that these discrepancies are due to some extraneous cause, and that they would be rectified by a uniform system of registration. In any future attempts to investigate this subject it will be necessary carefully to consider the source of the statistics. Experience shows that the hours of death in acute diseases differ considerably from those in chronic diseases, and it would be misleading to treat these two sets of cases as though there were no difference between them.

[4] *Journal of Statistical Society*, 1861, p. 395.

Probably not: "Is he happily married?" "Well, his wife is the sort of a woman who will stand up near the rear door of a street car when there are vacant seats further up front."—*Puck.*

THE NUMBER OF PHYSICIANS AND MEDICAL SCHOOLS IN THE UNITED STATES.

An interesting statistical article on the medical colleges, physicians, etc., of the United States, based on the last edition of Polk's Medical and Surgical Register and the census of 1890, appears in the *Virginia Medical Semi-Monthly* of August 21st.

According to the above authority the ratio of physicians of all kinds in the United States is about one to six hundred and thirteen of population. This estimate is based on a population of sixty-five millions, and one hundred and six thousand of the physicians are thought to come under the head of "regular," while twenty-six thousand represent the electric, homœopathic, physio-medico and other sects, together with professional quacks and irregulars in general. They are distributed throughout the Union, in the various States and territories as follows:

State.	Population.	No. of physicians.	Ratio of population.
Alabama	1,513,017	1,609	1: 940.3
Alaska	32,052	5	1:6,410.0
Arizona	59,620	95	1: 638.1
Arkansas	1,128,179	1,841	1: 558.5
California	1,208,130	3,152	1: 383.4
Colorado	412,198	918	1: 449.0
Connecticut	746,258	1,139	1: 666.9
Delaware	168,493	239	1: 704.5
Dist. of Columbia.	230,392	857	1: 264.2
Florida	391,422	764	1: 512.3
Georgia	1,837,353	2,021	1: 909.5
Idaho	84,385	109	1: 772.3
Illinois	3,826,351	7,331	1: 521.9
Indiana	2,192,404	4,778	1: 458.8
Indian Territory	172,321	291	1: 592.3
Iowa	1,911,896	3,400	1: 562.4
Kansas	1,427,096	2,210	1: 645.6
Kentucky	1,858,635	3,104	1: 598.8
Louisiana	1,818,587	1,460	1: 766.2
Maine	661,086	1,164	1: 567.9
Maryland	1,042,390	2,003	1: 520.4
Massachusetts	2,238,943	4,032	1: 555.2
Michigan	2,093,889	3,730	1: 561.3
Minnesota	1,301,826	1,576	1: 826.0
Mississippi	1,289,600	1,397	1: 943.3
Missouri	2,679,184	4,736	1: 565.7
Montana	132,159	247	1: 575.5
Nebraska	1,058,910	1,595	1: 663.8
Nevada	45,761	48	1: 953.3
New Hampshire	376,530	669	1: 562.6
New Jersey	1,444,933	1,844	1: 783.5
New Mexico	153,593	97	1:1,584.5
New York	5,997,853	11,132	1: 538.7
North Carolina	1,617,947	1,358	1:1,191.4
North Dakota	182,719	203	1: 900.1
Ohio	3,672,316	7,575	1: 484.7
Oklahoma	61,834	326	1: 189.7
Oregon	313,767	653	1: 480.5
Pennsylvania	5,258,014	8,439	1: 623.0
Rhode Island	345,506	543	1: 536.3
South Carolina	1,151,149	1,060	1: 991.7
South Dakota	328,808	364	1: 903.4
Tennessee	1,767,518	3,079	1: 574.0
Texas	2,235,523	4,617	1: 484.2
Utah	207,905	254	1: 818.5
Vermont	332,422	626	1: 531.0
Virginia	1,655,890	1,978	1: 847.3
Washington	349,390	650	1: 537.5
West Virginia	762,794	1,236	1: 536.4
Wisconsin	1,686,880	1,974	1: 854.9
Wyoming	60,705	60	1:1,011.7

The medical schools number about one hundred and seventy-five. Of these one hundred and twenty are regular, nineteen homœopathic, seven eclectic, two physio-medico, and twelve unclassified. Eight are for women specially; five of these being regular, two homœopathic, and one eclectic. In eight of the other colleges women are permitted to matriculate, and four are exclusively for colored people.

She—I worked hard at French before going to the continent.

He—And they understood your French?

She—Oh, no! but I managed to get along with their English beautifully.—*Sketch.*

Macbeth up to Date.

Thyroid of a black-faced sheep
In the cauldron boil and steep;
Brain of pig and spine of dog,
Testes of lascivious hog,
Pancreas of white-faced calf
Plunge in the mysterious bath;
Double, double, toil and trouble,
Fire, burn, and cauldron, bubble!
Medulla of a rabid bitch
Lain a fortnight in a ditch,
Bacillus of an anthraxed rat,
Cocci grown in putrid blood
Will make the spell both strong and good.
Double, double, toil and trouble,
Fire, burn, and cauldron, bubble!

—Doctor Jeaffreson.

SOCIETY REPORTS.

THE BUFFALO ACADEMY OF MEDICINE.

SURGICAL SECTION.

The Regular Meeting of this Section was held October 6.

The program was as follows:

"The Semi-Centennial of Anesthesia,"
DR. ROSWELL PARK.

"Ancestry as a Factor in Surgical Diseases,"
DR. WOODS HUTCHINSON.

"Exhibition of Roentgen Ray Apparatus, with Demonstration,"
DR. R. R. ROSS.

Dr. Park explained that he would not read a formal paper, since the University of Buffalo was to celebrate the semi-centennial of the first public demonstration of anesthesia, October 16, by appropriate exercises, in the course of which he himself was to present a historical paper. Dr. Park stated that a careful investigation of the claims of various men to have been the discoverers of anesthesia, showed that the contest could easily be narrowed down to Morton, Jackson, Wells and Long. It was probably true that Long, of Georgia, did use ether prior to its use by Morton, but his administration was partly surgical, partly experimental, and his confidence in the drug was so slight that he used it only once or twice, and did not publish his results till Morton's announcement, two years later, called his attention to the importance of the subject. Ether has been known as a chemical for about a century, and its effects were so popularly known that the peasantry of Georgia and the students of preparatory schools in the vicinity of Harvard College were in the habit of having "ether frolics," at which the administration was occasionally carried beyond the stimulating stage, and produced alarming symptoms. It was doubtless in this way that Long received the suggestion of the possible value of the drug as an anesthetic. Jackson, who had been geologist to several States, and was necessarily somewhat of a chemist, as well as a man of general scientific education, claimed to have suggested the anesthetic use of ether to Morton. It was significant, however, that this claim was not made till Morton had administered the drug in public, and had patented its use, so that there appeared to be a financial value in the discovery. Wells, to whom the use of nitrous oxid is properly credited, probably did not use ether till Morton's work was made public. Regarding Morton's patenting his discovery, it should be stated that he acted in conformity with the existing custom of his profession. He had graduated in dentistry at Baltimore, and, though he began to study medicine at Harvard, he did not complete the course. His interest in the general subject of anesthesia had been aroused by Wells.

Dr. Hutchinson spoke from notes and referred to a number of particulars in which the study of embryology and of evolution throws light on the development of surgical diseases. The branchial clefts, as influencing the formation of cysts, the deformity of equino-varus explicable by the position of the lower extremities of the fetus in utero and by the arrangement in anthropoid apes, the inclusion of extraneous cells which later form tumors, the close analogy between normal growth of tissues and that of malignant tumors, were among the points mentioned.

Dr. Ross's apparatus consisted of a number of storage battery cells, giving an aggregate voltage of about 20, transformed by a tremendous Ruhmkorff coil into a potential of about 700,000 volts, the alternating current being conducted by ordinary tinsel threads to the extremities of various Crooke tubes. Dr. Ross stated that only a few Crooke tubes out of a considerable number were satisfactory. The tube used was filled with a greenish glow when the current was turned on, and the fluoroscope, containing a coating of calcium tungstate, revealed the bones of the hand very plainly, but did not give a sufficiently clear outline to determine the presence of exostoses or similar minor deformities.

The meeting was one of the most successful in the history of the Academy, the hall being filled beyond its seating capacity.

Solid and dry as the human body appears, water constitutes more than one-fourth of its bulk, and all the functions of life are really carried on in a water bath, and, although the sense of thirst may be trusted to call for a draught of water when required, the fluid can be imbibed most advantageously for many reasons besides merely satisfying thirst. In the latter stage of digestion, when comminution of the mass is incomplete, it is much facilitated by a moderate draught of water, which disintegrates and dissolves the contents of the stomach, fitting it for emulgence and preparing it for assimilation. Hence the habit of drinking water in moderate quantities between meals contributes to health, and indicates the fact that those who visit health resorts for the purpose of imbibing the waters of mineral springs might profit by staying at home and drinking more water and less whiskey. Water is the universal solvent of Nature, and the chief agent in all tranformations of matter.—*Health.*

NEWS AND MISCELLANY.

In the death of Dr. George P. Bassett, at Dansville, N. Y., another of the old school of physicians has departed. He had been in active practice in Downsville, his native village, from the time of taking his degree, in 1862, with the exception of a short time when he served in the army as assistant surgeon. His field of practice was a wide one, extending, according to local papers, over a radius of fifteen miles, and, according to the same authority, he was as much beloved for his uniform kindness and generosity as he was respected for his attainments in medical science.

The commissioners in charge of the park system of West Chicago are going in for a number of innovations that are sure to be appreciated by the public. They include a bicycle race-track, a gymnasium, and a natatorium. The last two institutions have just been dedicated to the public. The natatorium provides accommodations for several hundred bathers, with separate pools for men and women, and all the necessary appliances will be furnished without charge. The gymnasium is combined with a quarter-mile running-track, and is essentially an out-door affair, provided with apparatus in great variety. Both these institutions are situated in the part of Chicago that lies well away from Lake Michigan, and is consequently most in need of such accommodations. It would be well for the park authorities of other large cities to follow this admirable example, and make their municipal pleasure-grounds thus minister in the widest sense to the physical needs of the poorer classes. There is no wiser form of public expenditure, and none that will bring a larger return from a given investment.—*Harper's Weekly.*

In all cases of rectal inertia, resulting either from a low grade of inflammation or ulceration occupying any site of the large bowel, tubercular, specific, or malignant, attended with persistent constipation, the perfunctory administration of an enema or cathartic is inadequate, says Manley, in the *Medical Brief*, and nothing less than a painstaking physical examination will reveal the real condition. In many males past middle life, in whom we have reason to suspect inhibition of the sensory reflexes of the rectum from local lesion in the neural periphery or in the spinal or central ganglia, particularly when vesical symptoms are present, with obstructed or forced urination, before directing any special therapy to the genito-urinary organs, we should be entirely assured by a digital examination that there are no fecal concretions lodged in the lower rectum. A relaxed, partially prolapsed uterus may roll over and interfere with complete defecation, giving rise to symptoms of fecal obstruction; and *per contra*, a rectal bag of hard, dehydrated or calcified fecal mass may, in turn, give rise to nearly every symptom of ovarian, tubular, or uterine disease. A thorough exploration of the rectum as a primary measure is of prime importance in all such cases.

Among the list of interesting papers to be read before the meeting of the Tri-State Society (Alabama, Georgia and Tennessee), held at Chattanooga, October 13th, 14th and 15th, we notice one by the erudite editor of the *Alabama Surgical Age*, Dr. Davis, with the title as written above—"Puss in the Pelvis." We have heard of pussy in the moonlight on roof and gable, in wood-shed and in stable, on fence, piazza, tree and plaza, but never before have we heard of pussy entering the sacred precincts of the pelvis. How got the pussy there? We should have to go to Chattanooga, to find out, we suppose.—*St. Louis Clinique.*

The local treatment of diphtheria with sodium hyposulphite has been too much neglected in modern therapeutics, says Dr. Henry Wickers, in the *Lancet*. He has for some time been using a solution of sodium hyposulphite as a local application in diphtheria and has been well satisfied with the results, three or four applications having generally been sufficient to clear away the false membrane. The solution is prepared for use by mixing equal parts of pure glycerin and a saturated solution of hyposulphite of sodium in water, and is applied with a brush to the exudation and inflamed fauces once or twice daily or as often as may be deemed necessary. The glycerin by its adhesiveness keeps the solution longer in contact, and also, by its well-known local action, helps to relieve that engorgement of the mucous membrane which seems especially favorable to the growth of exudation. It is probable that the hyposulphite has a continuing action as a germicide in the following manner: Chemic decomposition is first set up by contact with the acid secretions of the mouth and throat, sulphur and sulphurous acid in a nascent state being set free; the latter being gradually converted by oxidation into sulphuric acid, would in the same manner decompose further portions of unchanged hyposulphite, and so on until the hyposulphite was exhausted. The local treatment will not interfere with the general treatment, which must be adapted to the necessities of each individual case.

To the non-occurrence of puerperal hyper-involution may be attributed many of the gynecologic cases seen in private practice. By examinations up to the twelfth puerperal week the condition may be recognized if existing, says Dr. Hiram N. Vineburg and the ill consequences of deficient involution averted. Care should be taken that the condition does not become permanent. Observations may be summarized as follows:

1. Modern researches tend to prove that post-puerperal involution consists chiefly in a

retraction and contraction of the individual muscle-fibers whereby the whole uterus is reduced in size.

2. When involution goes on to its full completion the uterus is reduced to a size smaller than that of the non-parous organ.

3. This condition of complete involution is known as post-puerperal hyper-involution. It is principally seen in nursing women, and from this circumstance has received the cognomen of *lactation-atrophy*.

4. The so-called lactation-atrophy is a normal and desirable condition. It is temporary in its duration; but very rarely, under unfavorable circumstances, may become permanent.

5. When the parturient is unable to perform the function of lactation it is the duty of the physician to endeavor to bring about hyper-involution by other means at his disposal. An observance of this course will prevent many a woman from developing a host of gynecologic affections which frequently result from imperfect involution.—*Am. Jour. Med. Sciences.*

The Country Doctor.

The country doctor! Let the bard
Whose lyre is tuned to idle praise—
His locks unshorn, his face unmarred
By sweat and grime, his hands unscarred
By daily toil—in dulcet lays,
In empty word and hollow phrase
Recount the annals of the great.
A humbler theme to you I bring—
The smell of flow'rs, the breath of spring,
The flutter of the bluebird's wing—
And with it all I bring to you
The country doctor, good and true.

The country doctor! Him whose life,
From sun to sun, is daily rife
With bootless toil and ceaseless strife;
Whose sturdy frame is made to feel
The summer's flame, the winter's steel—
I come to sing in praise of him.
His soul is fat; his purse is slim;
His eyesight keen; his foresight dim—
For caring naught for power or pelf,
While there's a crust upon the shelf,
He works for fun and boards himself!

Ah! ye, who traverse city streets,
On swaying springs and cushioned seats,
The difficulties that he meets—
The bumps and jolts—ye little know,
Through seas of mud, o'er wastes of snow,
Where icy tempests howl and blow,
In pouring rain, where torrents flow
And sheen and shadow come and go,
Astride the sorriest of nags
And armed with spur and saddlebags,
He onward works his weary way;
And be it night or be it day,
He never falters nor looks back
Adown the steep and rugged track,
But sets his teeth and onward plods—
Himself a clod among the clods!

I've said—"A clod among the clods,"
'Twere better—"God among the Gods!"
For sacrificing hours of ease
And striving hard to do and please
And winning but the dregs and lees
Of life's sweet wine, he fights disease
With clenched hands and bated breath—
And knows no conqueror but death.
It shames me not to tell the truth—
An unkempt, muddy god, forsooth!
Besmeared, bespattered, leggings, suit—
From crown of hat to sole of boot,
And ofttimes tumbled in the wave
That seems to yawn a watery grave,
He bobs serenely on the flood
And swims about the sea of mud.
For lo! his pockets are so light
He cannot disappear from sight!

No scientific friend has he—
Who ends his name "A. M., M. D."
Or tacks thereto a "Ph. G."—
To help him in perplexity,
And earn them both a handsome fee;
But when he finds a knotty case,
A problem that he dare not face,
He sends his patient off to town
To some physician of renown.
(God save the mark! All, all are great
Who dwell within the city's gate!)
And this great man dilates his eyes
And rubs his hands, looks wondrous wise—
And nimbly gobbles up the prize!
The city doctor counts his gold,
Makes fresh deposits in the banks,
And sends the country doctor, old—
A neatly worded note of thanks!

The city doctor spends his days
In crowded marts and traveled ways;
At night he sees the latest plays,
And rests his half enchanted gaze
On some new "star" that lights the stage
A star of most uncertain age,
Of whom the critics rant and rage,
The country doctor, poor, despised—
His purse half-starved and undersized—
Contents himself to stay at home;
The only stars he ever knows
Are those that rest in heaven
And light the waste on winter snows.

The country doctor! Blessed be he
Who sets the weary suffr'er free
From burning fever, raking pain
And countless ills—and does it, too,
Without a thought or hope of gain;
Without a single cent in view!
I come to sing in praise of him
Whose soul is fat, whose purse is slim;
Whose eyesight keen, whose foresight dim,
For caring naught for fame or pelf,
While there's a crust upon the shelf—
He works for fun and boards himself.

—*Ohio State Journal.*

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2071. SATURDAY, NOVEMBER 14, 1896. VOL. LXXV—No. 20

ORIGINAL ARTICLES.

A RENAL SARCOMA IN AN INFANT NINE MONTHS OLD. OPERATION. RECOVERY.*

JOHN C. COTTON, M.D., MEADVILLE, PA.

Although sarcomata are of frequent occurrence and are more generally distributed through the various tissues of the body than any other tumors, thus making surgeons familiar with them, yet the history of the case here presented has some peculiarities, which, it is hoped, warrant its publication. Indeed, any operation, which even with the intelligent antisepsis of present-day surgery yields a mortality of nearly fifty per centum will always be of some professional interest. That nephrectomy in children for malignant diseases has such a mortality is shown in the extensive collation of reports of over 300 cases by Prof. Steele, published in THE MEDICAL AND SURGICAL REPORTER, February 1, 1896. Were the subsequent history given of all the cases operated upon, say for two or three years, doubtless, a much greater mortality would be shown to actually exist. This case is believed to be the youngest on record, save one of Schmidt's, upon which nephrectomy has been successfully performed for sarcoma.

Until quite recently the history of nephrectomy as a curative procedure for malignant growths was not reassuring to the aspirant for surgical distinction. "It is absolutely useless in a child," remarked Bland Sutton less than two years ago. "Nephrectomy for malignant diseases, in both adults and children, has been thus far a very fatal and a very unsuccessful operation," says an author in the *American Text Book of Surgery*, published in 1894. Another author reports two successful cases in a total of nineteen; while still another reports only two alive at the end of two years in a total of forty-three cases.

Russel Saeger, my little patient, aged nine months and ten days, had the unfortunate legacy of malignancy entailed by his maternal grandfather, who died with sarcoma of the hip. When three months old, a tumor as large as a lemon was discovered in his right side below the edge of the ribs. This, however, gave him no trouble and excited no

*Read before The Medical Society of Crawford County, July 1, 1896.

alarm until three or four months afterward, when colicky pains, accompanied by a diarrhœa, became a constant source of annoyance, not only to the little sufferer, but to the family as well and for this condition medical advice was first sought. When seen by the writer, the child was well nourished, notwithstanding the persistent diarrhœa, his appetite being still unimpaired. Nothing in his appearance indicated the cachexia peculiar to malignancy. There had been no hematuria. The tumor had increased slowly and gradually until the month previous to the time when he was first brought to my office, but during this month the mother claimed that it had increased in size fully one-half. From this history the inference would seem justifiable that the trouble was congenital, as such tumors usually are.

On January 2d, the patient was admitted to the Meadville City Hospital, and on examination a large, slightly-movable, solid tumor was found in the right hyperchondrium, the most prominent point of which was located two inches above the umbilicus and to the right of the mesial line. There was evidently no connection with the stomach or liver, but the attachment to the kidneys was evident. The circumference of the abdomen over the most prominent part measured twenty-five inches. On account of the family history and the rapid growth during the last month the diagnosis was a malignant tumor of the kidney, probably sarcomatous. At the urgent solicitation of the family, it was decided to give the little patient the benefit of whatever hope an operation might give in a condition that otherwise was without any.

On January 2, 1896, assisted by competent local surgeons, the operation was performed with every antiseptic precaution possible. An exploratory incision, two inches in length, was made in a line between the kidney and the prominence referred to, through which the feasibility of extirpation was ascertained. At this stage profound ether narcosis supervened which proved to be an embarrassing feature throughout the operation. After some delay and the vigorous use of stimulants hypodermatically, a slight rally took place when the incision was extended to eight inches, this length being found necessary for the enucleation of the tumor.

The incision was the transverse peritoneal recommended by Abbe. The adhesions were numerous, but most of them were separated by the hand. The growth was extra renal and developed along the line of the renal vessels, the adnexa being normal. Although extra renal, the attachments were to the kidney and the weight of the tumor had dragged the kidney from some of its fatty areolar connections with the spinal column. The enucleation completed, the kidney, with its capsule, were also removed. But a small quantity of blood was lost.

On account of the operation not being aseptic a drainage tube was inserted as a precaution, but was removed on the fourth day. The technic in common use in abdominal sections was now applied. Some infection occurred either through the drainage tract or from the divided ureter, as on the tenth day an exudate the size of a hen's egg appeared in this locality and discharged nearly two months, thereby retarding the convalescence. The recovery, however, was otherwise uneventful and now after the lapse of almost eleven months the little fellow is in excellent health. If the apparent case should continue for a period of two or three years, good hope might be entertained of its permanence. The operation was successful in the relief of suffering and in prolonging life and must emphasize, so far as a single case can, the correctness of the opinion of Kœnig and Abbe, that an operation should be performed in all cases of renal sarcoma in children so soon as a positive diagnosis can be made.

The tumor was encapsulated, on section had an encephaloid appearance and after a microscopical examination by a competent pathologist, was pronounced a small spindle cell sarcoma.

The after history of this case will be made public, should a recurrence of the disease take place, as in this manner only can the actual value of such an operation be fully determined.

A doctor is a man whom we hire for the purpose of telling stories in the chamber of a sick person till nature effects a cure or his medicine kills the patient.—*Seward.*

CHRONIC DUODENAL INDIGESTION.

JOHN B. SHOBER, M.D., PHILADELPHIA.

Chronic duodenal indigestion is a frequent disease of childhood. It rarely occurs in infancy, but is usually met with between the third and the seventh year. It is almost invariably caused by the continual administration of food unsuited to the age and digestive capabilities of the child, or of food which is digestible but which is given too frequently or in too large amounts. The mother with mistaken zeal, anxious for her child to grow up well nourished and robust, encourages and too often urges him to eat the most enormous meals. She denies him nothing, thinking that the more he eats the better. Children between four and six years of age are frequently allowed meat two and three times a day in addition to vegetables, eggs, milk, puddings and pastry.

It is not to be wondered at that the little one begins to have attacks of indigestion with gastric and abdominal pain, accompanied by vomiting and diarrhea. During the attack the daily diet is necessarily stopped, and the mother fears that her child is being starved when by the direction of the physician small quantities of milk and broth are ordered for a few days. So soon as the attack is over and the physician leaves she begins again to "feed the child up" in order to make up for lost time. Soon another attack comes on, which is relieved in the same way, and the trouble begins over again, to be repeated *ad infinitum*.

The mother becomes discouraged. The child does not thrive in spite of all her care. She endeavors to regulate his food by forbidding eating between meals, candy, sweets and pastry, but she plies him still with meat, rich milk, eggs, jellies, etc., and is surprised and worried that the tongue is always coated, the breath heavy, the bowels either costive or loose. Dark rings appear under the eyes, the child catches cold easily, is always peevish and fretful, and does not gain weight. The skin is dry, and patches of eczema are not unusual. The abdomen is distended and highly tympanitic. There may be no seat of tenderness on palpation. The liver is often congested, as shown by a slightly increased area of hepatic dulness. The most characteristic sign of the existing condition, however, is the character of the movements. They are highly offensive, often clay-colored and contain quantities of mucus.

The temperature during an acute attack is usually elevated, 101° to 102⅘° F., but subsides after the bowels have been opened by castor oil or small doses of calomel. Between attacks the temperature is usually normal, but it may remain at 99° or 99½° F. for many days at a time. There is no well recognized pathologic lesion. The mucous membrane of the duodenum is either hyperemic or congested.

By reason of this congestion, or perhaps owing to a plug of mucus in the orifice, the common bile duct cannot discharge the bile into the intestine; hence the clay-colored stools and the mild hepatitis which results in congestion of the liver.

The treatment of chronic duodenal indigestion is essentially by diet. Drugs are useful only as a means of relieving constipation or checking diarrhea. As a stimulant to digestion small doses of the tincture of nux vomica should be administered after each meal, and when the diet is increased and becomes more liberal the writer has obtained much benefit from the administration of taka-diastase in two and a-half grain doses after each meal. By the aid of this remedy the digestion of the starch element of the food is accomplished most satisfactorily and should be continued for a few weeks after the child is placed on a liberal diet and is apparently cured.

The following case illustrates the dietetic and hygienic management of a typical case:

A boy, six years of age, of fair muscular development and of good build

had been having frequent attacks of indigestion, with nausea and diarrhea alternating with constipation. He had a large appetite, and he was allowed and encouraged to eat liberally of anything he fancied that came upon the table. Meat was given to him twice a day, and nothing was denied him between meals. This had been going on for two years, and because he did not seem to thrive he was urged to eat still more liberally of all kinds of rich food. The attacks of indigestion were usually treated with small doses of calomel. The bowel movement was scarcely ever normal. The feces were usually clay-colored, very offensive and almost always contained more or less mucus. The skin was dry, and there usually existed a patch or two of eczema. The tongue was coated most of the time and the breath heavy; the abdomen was distended and distinctly tympanitic. The child caught cold easily and was not gaining weight as he should. The liver was slightly congested. The temperature was slightly above normal when the case came under the care of the writer. The line of treatment adopted in this case was that which is recommended by Dr. Thomas Morgan Rotch in his book on Pediatrics, first edition, page 866.

The child was ordered to bed for a week, and he was allowed five meals a day, the first being milk so modified as to contain fat 2, sugar 3, proteids 4, lime water 10. With this meal he was allowed a piece of thoroughly toasted bread. The second meal consisted of broth and toasted bread, with one ounce of claret in a half-tumbler of seltzer water. The third meal consisted of meat, toasted bread, claret and seltzer water; the fourth, of soup, toasted bread, claret and seltzer water; the fifth, of the modified milk and toasted bread. After each meal three drops of the tincture of nux vomica was administered. A tepid bath was given every morning. By the above diet we depend upon the proteid element of food and avoid the starches, sugars and fats, so that most of the digestion is performed by the stomach, relieving thereby the overtaxed duodenum.

The child rapidly improved in appearance. At the end of a week the temperature was normal. The fecal movements were natural both as to size and color. The skin had assumed a natural appearance. The tongue had cleared and the abdomen was less distended. Small quantities of fish and eggs were now added to the diet, and finally it was so increased that the child was eating three regular and unrestricted meals a day, and had entirely recovered. When the diet began to be increased two and a half grains of taka-diastase after each meal was substituted for the tincture of nux vomica. The case went on to complete recovery.

As relapses in this disease frequently occur, the greatest care should be exercised in regulating the diet for several months after apparent recovery.

The General Practitioner.

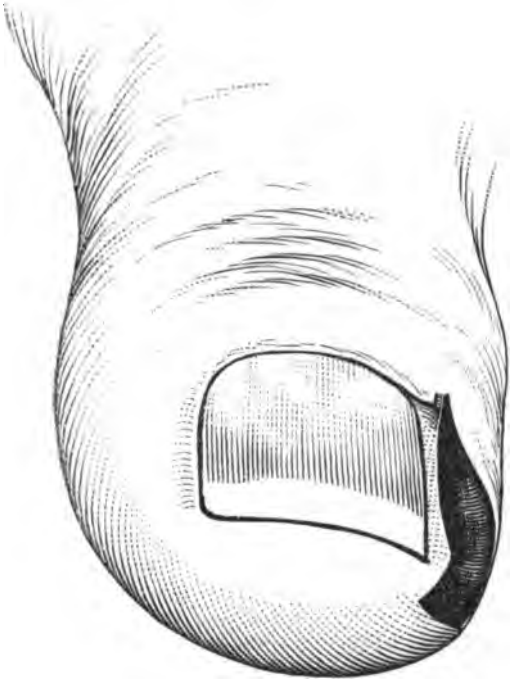
He must not walk his rounds for fear his patients think him poor.
And dearly do they love to see a carriage at their door;
And if his horse is fat, "He must have little work to do."
And if he's lean the reason is, "He starves the poor old screw."
Should he call upon his patients every day when they are ill,
His motive plainly is, "To raise a great big doctor's bill."
If he visits them less frequently—thus less'ning their expense—
The chances are he'll be accused of wilful negligence.
He must work all day and half the night, and never say he's tired.
For the public look upon him simply as a servant hired,
And should he take a holiday, he'll find, when he comes back,
Some patients have resented it by giving him "the sack."
Concerning money, he must seem indifferent to be,
And folks will think he practices from pure philanthropy;
When we hear about him boasting of the guineas that he earns,
We wonder if they all appear in his income tax returns.
About his own afflictions he must never say a word;
The notion of a doctor being ill is so absurd!
And when, perhaps from overwork, he's laid upon the shelf,
His sympathizing patients say: "Physician, heal thyself."

—*The London Lancet.*

RELAPSELESS CURE OF INGROWING TOE-NAIL.

EVAN O'NEILL KANE, M.D., KANE, PA.

I am aware that this trifling ailment scarcely deserves a place among surgical affections, yet its obstinancy and the pain and discomfort it occasions are



often most distracting to the patient and harassing to the physician.

By the usual operative methods, treatment of ingrowing toe-nail is anything but satisfactory. Prompt relief, it is true, follows the extraction, paring away or splitting and packing of the nail. But unless we completely destroy the matrix, the trouble will surely recur with the fresh outgrowth of the nail or the next tight pair of shoes. To cut or burn out the matrix is not only very painful, but often very difficult to accomplish, and at best our patient must be permanently deprived of the nail. The little operation which I am accustomed to performing is practically painless, and does not admit of the possibility of relapse.

It is as follows: The toe having been made thoroughly aseptic, a rubber tube tourniquet is cast around it and its tissues rendered insensible with cocaine or cold normal salt solution. I next split down the outer border of the nail about a line from its edge and beyond the region covered by the overlapping inflamed tissue. This piece of nail I then pull out with the tweezers in the ordinary manner.

I now cut a V-shaped notch in the outer border of the toe extending the full length of the nail. This is made wide enough to include all the hypertrophied, ulcerated and overlapping tissue, and is proportionately deep, (anywhere from an eighth to a fourth of an inch). The angles of the incision are now brought together, either by suture or strips of adhesive plaster, and an antiseptic dressing applied. If the patient will remain quiet, with the foot elevated for four or five days, the part will be completely healed within that period. No future trouble can be anticipated if a sufficiently large wedge of diseased tissue is removed, the new nail overlapping instead of being overlapped by the tender skin.

The "itch" (scabies) is often hard to treat successfully. Sulphur ointment well rubbed in will often allay, but frequently fails of curing because of the depth of the furrows made by the female acarus. It is therefore best, before the application of the ointment, to give the patient a thorough hot bath, lasting half an hour, with strongly alkaline soap, in order to soften the epidermis and uncover the burrow of the worm. The ointment may then be used with much benefit.—DR. HARE, (*Medical World*).

"Cook, how long did you boil those eggs?" "Nine minutes, mum." "But I told you that I wanted my eggs boiled three minutes." "Thot's thrue, mum,—but there was tree eggs, mum, an' tree times tree is noine."—*Harper's Bazaar.*

CARDIAC DISEASES AS ENCOUNTERED IN COUNTRY PRACTICE.*

E. S. DWIGHT, M.D., SMYRNA, DEL.

Prior to October, 1887, my medical practice was in the city, and for a part of that time I was assistant sanitary inspector of the New York Health Board, having all of the tenement houses in one-fiftieth part of the city allotted to me for inspection. Yet even in this field, as well as here in Delaware, I had found acute cardiac disease rather uncommon, prior to the summer of 1890. I occasionally had a case of rheumatic endocarditis or pericarditis, and I recall one instance where a pneumonic complication of scarlatina lit up a pericardial inflammation and one where pericarditis resulted, (the case of a New Haven hack driver) from long exposure to cold. Yet such cases were very uncommon.

When the great epidemic of Russian grip, in 1890, reached Smyrna, the disease seemed greatly modified by local malarial influences, and there were fewer deaths than might have been anticipated. But in the course of the succeeding summer a great many cases of acute nephritis were seen with concomitant heart lesions, wherever the grip had been allowed to run its course unchecked. Many of the cases were of the most alarming nature, and quite a number terminated fatally. These cases began with insomnia, profuse discharges of limpid urine, fever, etc. Dyspnea would then supervene, often extending to a degree of orthopnea with cervical breathing. In January of the following year I published an exhaustive article on the subject, giving a *resumé* of some thirty cases.

I had seen a hospital case years before, which puzzled the attending physicians at the time, but which threw a light on some of these more serious cases of my own. The case in question was pronounced to be one of aneurism of the abdominal aorta, and I was taken to the hospital to see it late at night by an attending physician, who was an intimate friend of mine. The bruit could be distinctly heard and the thrill distinctly felt. The arteries could be everywhere felt and seen pulsating, no matter how deeply placed they might be. The patient, a young colored woman, was in a high fever, and comatose. She died during the night. The next day an autopsy was held, at which I was present. To the surprise of the onlookers, the abdominal aorta was in a perfectly healthy condition, but a mass of ulcerating vegetations were found in the heart, with consequent infarctions of purulent matter in the lungs, liver and spleen. Doubtless there were others in the brain, but the head was not opened.

I believe that no less than six cases of ulcerative endocarditis corresponding to the above have unfortunately fallen to me in the last six years. The diagnosis was often difficult, and sometimes not correctly made until after the patient's death. All six terminated in coma, except one, where death ensued in consequence of a sudden movement. In several, a very high temperature was observed. In one case the thermometer registered 109° the last time it was used, and the temperature was rapidly rising at the time. It has been my misfortune more than once to be called in the evening to see a patient who had been feeling ill for several days, with weakness and dyspnea and some urinary disturbance, and with rapid heart action, but who had suddenly shown signs of improvement, perhaps sitting up nearly all day and developing a good appetite, but who had suddenly gone into delirium then into coma, followed by death.

I had a case of eclampsia in a primipara which I believe to have terminated in this way: The patient was treated with rectal injections of chloral and bromide. Labor occurred naturally, sufficient urine was excreted and was drawn at regular intervals with a catheter, and intelligence was for a time regained. A high fever succeeded, how-

* Read before the Delaware State Medical Society, June 9, 1896.

ever, with rapid pulse and labored breathing. Thirty-six hours later coma set in again, and death ensued.

In my last case of ulcerative endocarditis, I was able to demonstrate my diagnosis to my consultant by calling his attention to the precordial bellows murmur, and showing him that the abnormal sounds of the heart could be heard transmitted throughout the entire arterial system (we applied the stethoscope over the radial artery), and that the arterial pulsations could be everywhere seen and felt. This case was at first mistaken for one of apoplexy, and as the patient was a fairly robust young man of thirty-five, I bled at my consultant's advice. We had great difficulty in making the blood flow, but managed to withdraw some six or seven ounces. The primary affect was to relieve the stertorous breathing somewhat, but we had hardly left the house before convulsions announced the involement of fresh areas of brain substance. Ausculation at once cleared up the diagnosis.

In some of these cases of cardiac inflammation, the intoxication of the system seems to be due to the absorption of some morbid product through the abraded surface of the bladder, as in such cases antiseptic irrigation of that organ with mild astringent and alterative injections, gave almost instant relief. The relief would last for several days, when the treatment would have to be repeated.

Another case I recall proved one of pericarditis, complicating an attack of remittent fever without either rheumatic or renal element. The pain was referred to the left breast,and the patient, a young married woman, was convinced that it was a case of mammitis or "weed," as she termed it.

Another case was that of an elderly lady, who suffered severely with the typical Russian grip, in 1890, the disease taking its neuralgic form. Obstinate muscular rheumatism followed,and then endocarditis. Then came a series of embolisms. The first was in the left brachial artery, cutting off the pulsations at the wrist (a collateral circulation became established in the course of a week.) Then came an embolism in the lungs, causing great dyspnea (this also was recovered from.) The third embolism was in the right post tibial artery, causing dry gangrene of the foot and part of the leg. Then followed, in rapid succession, an embolism in one of the renal arteries and another in the brain.

A young man, who had caused a mitral lesion by overtraining for athletic sports while at college, came to me for treatment. In his case a varicose vein seemed to have formed in the right lung. This, suddenly bursting, formed an immense pulmonary apoplexy, the patient dying of asthenia when the clot began to break down.

Another patient, a hale, hearty and wonderfully well man of seventy-six, forcibly dilated his heart while rapidly wheeling a barrow load into his barn. A long illness, attended by frequent attacks of angina pectoris, ensued, the patient dying six months after the initial injury.

In gangrene following the continued fevers, especially typhoid, it is best, as a rule, to wait for the line of demarcation, but the operation should not be deferred long after its appearance. If danger of septic infection or speedy exhaustion should appear, immediate amputation at or above the probable limitation of the disease should be done. The extension of the disease, if the femoral be free, will not be, in the majority of cases, above the tubercle of the tibia. If the femoral be involved, necessitating an amputation of the thigh, the resources and the safety of modern antiseptic surgery would lead us in general to amputate, but in some cases it may be a serious question whether expectant treatment and a relatively long-subsequent amputation might not be less dangerous than an earlier operation. —W. W. Keen, in *Boston Medical and Surgical Journal.*

Some persons will tell you, with an air of the miraculous, that they recovered, although they were given over, whereas they might, with more reason, have said, they recovered because they were given over.—*Colton.*

CURRENT LITERATURE CONDENSED.

Variations in the Weight of Children During the First Two Weeks of Life.

As a result of the study of the weight during the first two weeks of life of 592 healthy children born at term, Schaeffer (*Archiv. für Gynäkologie*, B. lii., H. 2, p. 282), found that by the seventh day only 14½ per cent. had reached or exceeded the weight at birth and continued to increase thereafter until the fourteenth day. Forty-one per cent. did not reach or exceed the original weight before the fourteenth day. Forty-four and a half per cent. weighed on the fourteenth day less than at birth, and of these only 6 per cent. had at any time exceeded this weight. The minimum weight was observed on the third day. The weight at birth was usually regained on the ninth or tenth day. The maximum was attained between the tenth and twelfth days. The smaller the tendency to increase in weight the more irregular were the periods of maximum and minimum weight. Male children manifested greater variations in maximum and minimum weight than female children. Children considerably above the average weight at birth, especially girls, displayed a marked tendency to decrease. Primiparæ weighing less than 121 pounds and under twenty years of age gave birth on the average to the lightest children with the least predisposition to increase; as did also invalid mothers, as well as those engaged in hard work and badly nourished during pregnancy. The reverse applies to primiparæ and multiparæ weighing more than 121 pounds and between twenty and twenty-nine years of age. The latter also gave birth to a larger number of male children. A favorable course in the puerperium was without influence upon the weight of the child. Robustness of the father compensated for weakness on the part of the mother. Race, nationality and family exerted an influence. The actual loss of weight until the third day was greater, and the increase in weight until the seventh day smaller than the difference between the ingesta and the excreta. From the beginning there was some consumption of the infantile body for the provision of the necessary degree of heat, for which the milk alone taken as food was insufficient. For this reason the curves for weight, temperature and nitrogenous elimination were parallel. In the first three days the uric acid curve indicated the consumption of the infant's tissues that was taking place. Subsequently, together with the increased use of milk, the liver and thymus gland, from the destruction of leukocytes and the metabolic activity of the urate curve, became more prominent. Premature children displayed greater loss of weight, greater reduction of temperature, greater elimination of nitrogen in the urine, and more frequent icterus. The children of twenty-one tuberculous mothers had at birth an average weight of 5¾ pounds. The reduction below this was still considerable as late as the fourteenth day, as it was also in healthy children of syphilitic mothers. Icterus neonatorum is attributable to the consumption of the infantile body necessary for the production of heat, as a result of which there is increased formation of bile in the liver, at times in conjunction with deficiency of water and the consequent destruction of red-blood corpuscles. Bile enters the circulation because of the general deficiency of water and the low pressure in the biliary system, because the slight ingestion of nourishment fails to stimulate contraction of the biliary passages, and because the pressure in the portal vein is less than that in the biliary channels. Thus, icterus is especially common among weakly, sickly and premature children—at times of primaparæ—with little increase in weight; and, on the other hand, among those with persistent meconial stools. When jaundice exists, there is generally slight and slower increase in weight. Children fed with sterilized milk show no increase in weight on the seventh day, and on the fourteenth day a slighter increase than other children. The loss of weight on the fourteenth day was less among especially well-developed children than among normal children of average weight, and the increase larger. In such children icterus can only occur in association with loss in weight.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, NOVEMBER 14, 1896.

EDITORIAL.

THE SURGICAL STATUS OF THE BICYCLE.

For twenty-five weeks during the wheeling season, the *Buffalo Express* has collected statistics of accidents occurring to bicycle riders in the streets of that city. Before quoting figures, some preliminary remarks may be in order, to call attention to their general significance.

Cold-blooded as it may seem, it is necessary for the surgeon, like the physician of any branch of practice, or like the man engaged in business of whatever kind, to inform himself as to the sources of his employment. It is not simply with regard to the fullness of his pocket-book that the obstetrician notes the average number of births to each marriage, or that the surgeon is interested in the influence of steam railroads or of trolleys on his practice. As a matter of practical philanthropy, it is desirable that every one should anticipate, so far as possible, the demands which are likely to be made upon him, while sociologic questions are solved only as each worker notes the influence which the various institutions of civilized life have upon the welfare and detriment of the human race, so far as his own possibilities of observation extend.

The statistics gathered by the *Buffalo Express* ought to be fairly representa-

tive. The city is one of the second magnitude, having—exclusive of suburbs—about 350,000 inhabitants. One in seven of these, or about one in four, who may be expected to use the highways, ride bicycles, to some extent. Although supplied with over two hundred miles of smooth pavement, the majority of the riding, both by men and women, is for business and therefore on down-town streets. These are not so wide nor so empty as might be desired by cyclists, still there is no such crowding as occurs in New York and Boston, none of the tortuous and narrow streets of the latter and none of the bad pavements which still linger in Philadelphia. On the whole, the conditions are as favorable as can well be expected without being ideal.

The *Express* has chronicled, between April 15 and October 10, sixty-three bicycle accidents serious enough to involve medical attendance. The editorial writer also, states that he personally knows of a number of cases that did not get into print and estimates the total number of accidents as about one hundred, or four per week. No deaths have resulted, although many of the injuries were, at first, thought to be fatal. The distribution of these accidents, so far as time is concerned, is about equal for May, June, August and the parts of April and October covered by the statistics. Five accidents occurred in July and sixteen in September. The increase for September is correctly ascribed to the greater amount of traffic. The minimum for July was probably due in part to the diminution of business, the absence of wheelmen from town and the relatively greater use of up-town and suburban streets. The *Express* explains an increase of accidents in May and June as probably due to the large number of novices riding, but the figures given do not show any such increase. Forty-one, about two-thirds of the cyclists injured, were men, indicating a relatively greater liability on the part of women. This is explained, not only by differences in dress and general physical development, which work to the detriment of the female sex, but by the common observation that women cyclists carry more bundles than men, and, therefore, have their wheels under less perfect control, and that they also take chances that none but the most reckless male riders would dare.

These statistics show in the most convincing manner that the popular notion as to the prevalent carelessness of cyclists, is totally wrong. Only six serious accidents to pedestrians can be charged against 50,000 wheels in half a year, and it is more than possible that some of these six may have been partly, or wholly, due to carelessness of the injured persons. Moreover, of the sixty-three injured bicyclers, only five had suffered from collision with other cyclists, representing, probably, not more than three serious accidents, since apparently the figures refer to the number of injured persons and not to the number of collisions. In other words, these 50,000 cyclists, riding for half a year —and the half during which wheels are most used—threading their way in and out through crowded streets, sometimes in such swarms that one might count a hundred or two in walking a block, are responsible for only about ten collisions with serious results. Four riders collided with trolley cars and one or two each with telegraph and telephone poles, trolley posts, curbstones, lamp and sign posts, etc.

In contrast with these meagre figures, we learn that twenty-five of the injured bicyclers had collided with vehicles drawn by horses. The figures lend color to the general opinion of wheelmen that many drivers of delivery wagons, mov-

ing vans and hacks, not only do not do their share in trying to avoid collisions, but take a malicious pleasure in cramping suddenly on the wheelmen or otherwise blocking him and letting him avoid disaster—if he can. Many of those who are not malicious are criminally careless.

It should also be noted that, in all probability, many of the cases in which bicyclers have run into poles and curbs are directly due to crowding by vehicles. In one such case—whether included in the list or not, we do not know—a wheelman was deliberately crowded to the curb by a hack driver and fell, sustaining a compound fracture of the leg.

We are not aware that there is any characteristic injury resulting from bicycle accidents. The rider is supported by feet, perineum and hands, so that no one part of the body suffers the entire force of impact. The direction of the collision, the rate of speed, the objects against which the wheelman falls, or against which he may be driven, his attitude on the wheel, all influence the lesion which he may suffer. It must be borne in mind, also, that a cyclist does not suffer one fall, unless he is precipitated over an embankment or has some similar accident, but is pushed sideways by his momentum, after he strikes the ground, without being able to free himself from his wheel or to stand upright. Thus, he may sustain injuries to his knees, hands, shoulders or head, according to his efforts to save himself and according to the direction in which he stumbles. Those who do not ride bicycles, almost without exception, overlook the fact that the cyclist not only suffers the force of collision but also the results of this pushing, stumbling fall.

The pedestrian often imagines that it is sport for the wheelman to run him down and the comic papers have a large file of jokes to this general effect. The pedestrian, already on the ground, is struck by an air cushion, or is whirled out of the way by the fork or handle bar. The wheelman, on the other hand, bears the brunt of the collision on the perineum, and also receives a bad fall.

Much has been written on the dangers of wheeling, medical and traumatic, but we believe that actual statistics, as to the result of street accidents, are rare.

ABSTRACTS.

SOME ADDITIONS TO OUR VEGETABLE DIETARY*

Up to the present time chemistry has shown in a general way what substances are required for building and repairing the body, for keeping it warm, and for making it work. It has shown too approximately, what amount of lean meat, flour, sugar, etc., ought to produce the desired result, but it has not yet shown in detail what kinds of these various types of food will suit the taste, digestion, and physiological needs of particular persons or particular conditions. An exclusive diet of salt meat and beans in the arctic region produces the physiological condition known as scurvy. In some parts of the country a diet of corn bread, bacon, and molasses has been persisted in to such an extent as to produce a widespread and almost chronic condition of biliousness. The conclusion from such cases is that in the selec-

*Frederick V. Coville, Botanist, U. S. Department of Agriculture, in the Year Book of the Department of Agriculture, February, 1896.

tion of food we must take into account the appetite, power of digestion, and physiological peculiarities of the individual; in these matters each man is necessarily his own judge. There seems little doubt, in general, that a wider use of green vegetables in the dietaries of most of our people, particularly those with healthy digestion, would be a marked benefit.

In the year's diet of wild herbivorous animals, the fats and the carbohydrates, principally stored in seeds in the form of oil and starch, furnish the chief foods in autumn, and on them the animals fatten, providing themselves with the necessary store of bodily fuel for the winter. In the spring, when they have usually exhausted this stored fat, their principal food is green herbage, and upon this they renew their muscular vigor and general vitality. A similar yearly routine prevails among savage races, as illustrated by many tribes of our Western Indians. So far as the naturalness of a diet of green vegetables is concerned, there can be no doubt that it formerly was and that it still is adapted to the requirements of the human body. But since the beginning of civilization the food of mankind has come to be more and more artificial in character, until foods are now selected more by custom than by instinct. The habit of eating salads and boiled green vegetables, commonly referred to as pot herbs or greens, is much more prevalent in Europe than in America, and to the lack of this kind of food, it is believed, is due in large part the reputation of Americans as a bilious race. Of course, like all nations, we eat a large amount of plant food, but by far the greater part of it is derived from seeds, roots, and tubers.

All pot herbs are properly gathered in the early period of the plant's growth, when the green parts are relatively rich in formative and nutritious materials. More than four-fifths, by weight, of the substance of green vegetables is made up of water. Care should always be taken in gathering or selecting pot herbs that the plants are young and have not become tough and stringy by the transformation of their formative materials into cellulose or other indigestible or perhaps deleterious substances.

The Swiss chard (*beta vulgaris*) has been cultivated and selected in such a way that the principal development of the plant takes place in the leaves instead of the root. The plant is sometimes called, therefore, leaf beet and sometimes spinach beet.

The charlock (*brassica sinapistrum*) occurs as a weed across the northern part of the United States, from New England to the State of Washington, and is most troublesome in regions like Wisconsin, Minnesota, and North Dakota, where spring wheat is extensively cultivated. It is a near relative of the black mustard, commonly occurring with it as a field weed, but may be distinguished by its large pods, which when mature are 1 to 2 inches in length, those of black mustard scarcely exceeding half an inch. Charlock was commonly used as food in northern Europe centuries ago, but in America it has not, so far as known, been employed for that purpose. Indeed, in some parts of central New York, where it is distinguished from its relative under the name "wild mustard," it is commonly reputed to be poisonous.

Chiccory (*Cichorium intybus*), the ground and roasted root of which is used in small amounts to improve the flavor of coffee and in larger amounts as an adulterant or substitute for it, occurs as a weed in the Atlantic States and on the Pacific Coast, and locally in the interior. Thus far it is confined principally to the vicinity of cities and towns, and has not yet become generally diffused. It is closely related to the cultivated endive (*Cichorium endivia*), a common salad plant. The root leaves in their young state are the parts used as a pot herb. They contain a bitter principle.

The winter cress (*Barbarea præcox*), and the yellow rocket (*Barbarea barbarea*) often pass under the general name of mustard, but the two species may be easily distinguished from the true mustards by the form of their leaves, as well as by the technical difference shown in the cross section of the seed. Yellow rocket is a well-established weed in the Eastern States, having been introduced from Europe. It occurs also as a native plant upon the higher mountains from the Atlantic to the Pacific. Winter cress is in common

cultivation from the vicinity of New York City southward, and to some extent reseeds, and maintains itself without assistance, but it can hardly be considered under these conditions a real weed. In the city of Washington it is marketed extensively as a winter salad and pot herb.

The occurrence of the dandelion (*Taraxacum taraxacum*), as a weed in lawns and pastures is due, as with most of our common weeds, to its introduction from Europe. While it occurs in almost all parts of the United States, it is not a common plant in and west of the Great Plains, nor in the extreme south, though it has obtained a strong foothold at a few points on the Pacific Coast. Market gardeners in the vicinity of Paris have been cultivating the dandelion for the past twenty-five years, and at least three horticultural varieties have been developed within that time. In the United States, however, the dandelion is seldom cultivated, though eaten almost everywhere. The customary use of the dandelion in Paris is as a salad, the plants being eaten either green or blanched.

Two species of dock, the broad-leaved (*Rumex obtusifolius*) and the curled (*R. crispus*), are common weeds in pastures, meadows and cultivated fields, the former extending from New England to the Great Plains, the latter quite across the country. Both are perennials whose root leaves in spring are often used as a pot herb, sometimes alone, sometimes mixed with dandelions or other plants. Patience dock (*R. patientia*) is widely cultivated in Europe as a pot herb, and is grown in America also to some extent for the same purpose, but it seldom appears in our markets. The true sorrel dock is in common cultivation in Europe, being grown either from seed or by root propagation. This is the most acid of the plants used as pot herbs, nearly all the docks containing, in greater or less amount, an acid principle similar to that of the common pie plant or rhubarb. The young leaves of one of our native docks *R. berlandieri*, were used as a pot herb by the American aborigines, more particularly the Pimas and Maricopas.

Kale (*Brassica oleracea acephala*), essentially a cabbage plant that does not form a head, is a common market pot herb. Like cabbage, it requires thorough cooking, and is less easily digestible than many other pot herbs. The young leaves of the turnip (*Brassica rapa*), either green or blanched, are frequently used as a pot herb, particularly in the South. They closely resemble some of the varieties of kale in both appearance and taste.

Lamb's-quarters (*Chenopodium Album*), is a common weed in cultivated fields and gardens, extending almost throughout the United States. In its young stage, when six or eight inches high, the plant is very tender and succulent, and in Europe, as well as in some parts of our own country, has often been employed as a pot herb. It belongs to the same family as the beet, spinach, orach, and mercury. This is perhaps the most widely diffused and commonest of the weeds which might be used for human food.

Marsh marigold (*Caltha Palustris*), which in the United States bears more commonly the name "cowslip," is a native of the northern United States and British America, extending from New England to Minnesota and northwestward to Alaska. It grows in cold swamps and wet meadows, shooting up in the spring through the shallow water. Locally it is used among the country people as a pot herb, the plants being gathered when they are in bud or just as the flowers begin to open.

Mercury (*Chenopodium bonushenricus*), more commonly pronounced "markery," is one of the common cultivated pot herbs of Europe, and to some extent has been introduced into our gardens. It shows little tendency to spread as a weed, and is not likely to become generally abundant in the United States.

Black mustard (*Brassica nigra*), from which the condiment known as mustard is chiefly derived, has long been cultivated in Europe for its young leaves. In our own country it was introduced many years ago as a weed in fields, and in some regions, more particularly in California, where it passes under the general name of "wild mustard," it has become a thorough pest in wheat fields. So easily does it seed itself that it is rarely, if ever, really cultivated in the

United States, although small areas in the corners of gardens are often left without cultivation as a "mustard patch." Its value as a honey-producing plant has added further to its desirability on farms.

Orach (*Atriplex hortense*), is an occasional garden substitute for spinach, though it rarely appears in market. Several varieties are grown in Europe, which differ principally in color, the stem and leaves varying from the ordinary bright green to a pale yellowish green with white stems or to a dark reddish purple. The plant is a native of Tartary and shows no tendency to become established as a weed.

None of the common pigweeds (*Amarantus*) introduced from tropical America and common in our cultivated fields, such as *A. retroflexus and A. chlorostachys*, appear to have come into use as pot herbs, although a variety of *A. gangeticus* is commonly cultivated by the Chinese in California for this purpose. Among our Southwestern Indians, both in Arizona and in northern Mexico, as well as among the Mexicans themselves, a native species, *A. palmeri*, is used largely in a similar manner.

Pokeweed (*Phytolacca decandra*), is a native plant of the United States, growing throughout almost all parts, except the extreme north, as far westward as the Great Plains. The root contains a deadly poison, which is used medicinally, and in some cases has caused accidental death. In early spring the stout stems push out from the ground and are cut when only two or four inches in height. They are thick and succulent like the stems of asparagus.

Purslane (*Portulaca oleracea*), occurs as a weed in almost every garden in the United States, is a native of India, has been cultivated from the earliest times, and was such an early accompaniment of civilization as to have a Sanskrit name. It was carried westward to Europe, and has there been in use for centuries as a salad and pot herb. Indeed, several varieties are now known in cultivation.

In mountain regions from the Rocky Mountains westward to the Pacific occur several varieties of Claytonia more or less resembling the two well-known species of the eastern United States called "spring beauty." The most widely diffused and representative among the western species is *C. perfoliata*. For many years this has been in use as a pot herb, though a knowledge of its employment for this purpose appears to be confined to restricted localities.

The common garden spinach (*Spinacia oleracea*), cultivated everywhere in Europe and the United States may be considered the typical pot herb of these two countries. The plant, which was unknown to the Greeks and Romans, is believed to have originated in Persia and to have been carried both westward and eastward, ultimately finding its way to China as well as western Europe and America.

New Zealand spinach (*Tetragonia Expansa*), was brought to Europe by Captain Cook in his voyage around the world, and has since been cultivated there to a greater or less extent. It is an annual, with spreading branching stems and inconspicuous green flowers. It continues to produce a crop of succulent leaves during the whole summer, and therefore is useful as a pot herb in the hot season, when almost all other plants so employed are not available. It will also withstand a considerable drought, and for this reason is especially useful in regions of limited rainfall.

The plants enumerated here do not by any means comprise all the species that might be used as pot herbs, but they have been selected so as to suggest to people in every part of our country certain plants growing in their own region which are available for use in this manner. Doubtless others, particularly among our native plants, such as the common nettle, milk-weed, and the round-leaved mallow, commonly known to children as "cheeses," will be found equally important.

He—"What do you think of young Jones?" She—"I think if he had lived in biblical days, Balaam's ass would never have obtained such prominence."—*Harlem Life.*

Policeman—"You had better come along quietly and not make any trouble." Pickpocket—"G'yarn. Not give you trouble. Where'd your job be if it weren't for the likes o' us?"—*Judy.*

THE IMPORTANCE OF MAKING EXAMINATIONS OF THE SIGMOID FLEXURE OF THE COLON.*

The sigmoid flexure, as you know, is the double curve the descending colon takes before it terminates in the rectum. Treves claims "that it is not usually like the capital S shaped, but a large loop about 17½ inches long, with the top of the loop sometimes even touching the right side of the pelvis." In two cases in which I opened the abdomen and found the disease in the sigmoid, in one, the loop, as Treves calls it, extended over to the right side, and in the other it was lying in the median line. The upper part of the sigmoid is retained in its place by a loose fold of peritoneum, which accounts for its free movement and the different shapes it assumes. But at the lower end of the flexure the fold of the peritoneum is quite short, and holds the part up close to the sacro-iliac symphysis. The sigmoid hangs down in the pelvis like a sac when not distended. The rectum is narrower where the sigmoid flexure joins it than further down, even narrower than the lower part of the sigmoid flexure.

From a mechanical standpoint the danger of feces accumulating in the double curve or loop is plain to be seen, with the opening in the rectum smaller than the sigmoid. But we do not mean to reflect on the mechanical construction of the sigmoid, for it has a wise and important function to perform, that of being a receptacle for the final disposal of the feces between the acts of defecation, as well as by its peculiar shape, to prevent the too rapid passage of the feces and gas from the bowels. The function of the rectum being to carry off the feces and not retain them, as is generally supposed, when the daily evacuation from the bowels is not observed. O'Beine claims that the main portion of the mass is lifted back into the sigmoid flexure, when the desire to go to stool is not attended to, thereby leaving the rectum comparatively free from feces. While this may be true, I know that I have often found, while making vaginal examinations, that the rectum was filled with a large fecal mass, but how long this mass had been in the rectum I could not say, or whether it was lifted back into the sigmoid flexure before its final expulsion, I do not know.

In the male I have rarely found feces in the rectum to any considerable amount. When the feces are lifted back into the sigmoid and retained there, the watery portion is soon absorbed and the accumulated mass acts as an irritant, thereby causing congestion, inflammation and ulceration of the mucous membrane, and as the hardened mass is finally forced out through the rectum it causes hemorrhoids and many other pathologic conditions of the rectum. But as I wish to confine my paper to the sigmoid flexure, will leave the disease of the rectum out.

There is no doubt that the sigmoid flexure is the most common seat of obstruction in the bowels, and it is well for us to keep in mind the loop shape that the sigmoid is likely to take when we feel a hard mass in the median line, or even on the right side.

CASE I.—Four years ago I made an exploratory incision in the abdomen for what seemed to be a large fibroid tumor. In fact, it was so diagnosed by several of my medical friends. But when we got the abdomen open, to our surprise it was the sigmoid flexure lying in the median line and enormously distended with feces. The gut was hypertrophied, that is, its walls were quite thick, seemingly one-quarter inch, with a channel around the mass to allow the feces to pass. We made a four-inch incision in the bowel and scooped out fifteen to twenty pounds of hard feces, as well and thoroughly packed as the clay in the ground. This opening in the bowel was closed with 16 Czerny-Lembert silk sutures and dropped back into place. She made a good recovery, and in eight months gave birth to a healthy child. This case gives the history before the operation of having had this supposed fibroid for eight years, and that before she noticed it, she had suffered from constipation, but during the later years her bowels had been loose.

CASE II was that of a married lady,

*A. B. Walker, M.D., Canton, in Cleveland *Journal Medicine.*

thirty-eight years of age, who had pain in her left side, endometritis and internal hemorrhoids, with a mucopurulent discharge from bowels. She had a cachectic look, as though there was absorption of some septic material, which was attributed to the condition of her uterus. Dilating, curetting and packing her uterus cured her endometritis, dilating her sphincter *ani*, and removal of her hemorrhoids cured her rectum, but the pain in her side and discharge from her bowels continued, and the cachectic appearance was no better.

Case III was that of a single lady, aged twenty-four years, who had pain in her side and back, dysmenorrhea, a small fissure in her anus, with a mucopurulent discharge from her bowels. Dilating her uterus helped her dysmenorrhea, and dilating her sphincter and curetting the fissure cured her rectum, but the pain in her side and back and mucopurulent discharge were no better.

Case IV.—A married lady, forty-eight years of age, had pain in left side and back, a rectal ulcer, several enlarged *papillae*, and also a mucopurulent discharge streaked with blood from her bowels. A thorough dilation of her *sphincter ani* muscle, and curetting the ulcer, clipping off of the *papillae* cured her rectal trouble, but she still had the discharge from the bowels. About two weeks after the operation she remarked to me that she believed her disease was higher up, and that I had not reached it. I tried to pass a Kelly's long rectal speculum without an anesthetic, but failed. I succeeded in passing a Wales Bougie No. 5, and thoroughly washed out her sigmoid flexure with hot water, after which I threw up into her sigmoid, through this same bougie, four ounces of a saturated solution of boric acid, which she retained six hours. This treatment was repeated every other day for a period of one month, when she was discharged cured. The pain in her back and left side were entirely relieved and the discharge from her bowels stopped. My experience in Case IV. enabled me to see where I had failed to cure Cases II. and III. No. 2 was placed on the same treatment, and is getting well. No. 3 is not well yet, but is improving. I may have to anesthetize her and explore the sigmoid flexure with a long speculum, when I expect to find an advanced stage of inflammation of her sigmoid, and perhaps some ulcerations.

Case V.—A married lady, aged twenty-eight, mother of one child, consulted me last winter for what she called indigestion, pain and tenderness over the left side, and distention of bowels from gas. She had a mucopurulent discharge, mixed with blood from bowels, with at times round casts an inch or more long, not unlike the false membrane of croupous laryngitis. My diagnosis was inflammation of the sigmoid flexure, bordering on ulceration, with some narrowing of the bowel near the entrance to the rectum. I recommended an exploration with Kelly's speculum, and later the use of a Wales bougie, as in Case IV. My advice was not taken, and later on a specialist was imported, who, in my presence, dilated and scissored her rectum; dilated, curetted and packed her uterus; dilated and removed a circular ring from her urethra; dehooded her clitoris and removed both her ovaries, all at one time in the order I have mentioned. I was not able to see anything specially wrong with her ovaries, but as we look through differently colored glasses, perhaps I was not the best judge. She recovered from the effects of the multiple operations, but was not benefited by them. In fact, her condition was made worse by the mutilations, which only added to her sufferings. A few weeks later, there being some induration in her pelvis, her specialist decided to remove her uterus, which he did through the vagina. After he was through he remarked to me that this ought to benefit the patient, when I told him that I had no confidence in it, for the trouble was in her sigmoid. He then passed a good-sized probe up into her sigmoid with considerable difficulty. She recovered from this second operation, and since having her sigmoid opened up, she has been somewhat better, but is not well, for on the eighth of this month I saw her in a very severe attack of indigestion, with the same trouble in her left side. I doubt whether she will ever get well until her sigmoid is opened up, cleansed and treated.

Case VI., that of a married lady, aged twenty-seven years, mother of two

children, a very intelligent lady, consulted me three months ago for what she called dysentery. Upon closer inquiry I learned that frequently through the day she would pass large quantities of mucus mixed with blood and pus. She had some tenderness over the sigmoid and pain in her back; was growing thinner in flesh and had a bad color. Trouble of her left ovary had been diagnosed by another physician, and her uterus had frequently been treated locally for the pain in her back. I was not able to find anything wrong with her uterus or ovaries, and her rectum looked fairly well, but when I passed a Wales bougie, as the point of it entered her sigmoid, it gave her a sharp pain in the back. My diagnosis was, advanced stage of inflammation of her sigmoid, bordering on ulceration. She gave the history of having been of decidedly constipated habit. My treatment consisted in *cascara sagrada*, to regulate her bowels; hot water enemas, to wash out her sigmoid, and fluid hydrastis, drams two, water oz. two, mixed, which I threw up into her sigmoid with a Wales bougie No. 5, every other day, after the enema passed off. This she retained from six to eight hours. She rapidly improved, and is to-day comparatively well. She has no pain in her back and does not pass any more mucus, blood or pus.

I have purposely avoided malignant diseases, torsion, etc., of the sigmoid, because they are not usually hard to diagnose, and have given you the ones that are likely to be overlooked and treated for some other disease, which is more likely to be the case in the female, for when they have pain and distress in the pelvic region it is usually referred to the uterus or ovaries; and there is no doubt that many an ovary and uterus has been sacrificed when the pathologic condition was all in the sigmoid flexure.

SUDDEN ACUTE ABDOMINAL PAIN: ITS SIGNIFICANCE.*

The accumulative experience of fifty years has still left obscure points in abdominal surgery which the genius of Lawson Tait attempted to set at rest by the exploratory and confirmatory incision.

During the past ten years I have been particularly interested in gynecology and abdominal surgery, and all along these years has risen the question of abdominal pain and its signification. To interpret abdominal pain requires the best skill of the finest heads.

Location.—How far can we diagnose abdominal pain by its locality? Only to a limited degree. Associated circumstances must aid in the diagnosis. There are three common localities of acute abdominal pain, or peritonitis,—viz., pelvic, ceco-appendicular and that of the gall-bladder region, and as probability is the rule of life, it is well to diagnose acute abdominal pain as a disturbance in one of these three localities of the peritoneum.

Acute abdominal pain in general is referred to the navel,—in other words, to the region immediately over the solar plexus or abdominal brain. Acute abdominal pain is due to a disturbance of the peritoneum, owing to a lesion of an adjacent viscus; but since the peritoneal pain can arise from many organs and from several points of the same organ, it demands the most experienced diagnostic acumen and the most mature judgment to interpret the significance of the trouble. I have repeatedly observed in appendicitis that patients say the acute pain, especially in the beginning, is over the whole middle of the abdomen (solar plexus). This may be due to excessive and violent peristalsis of the small intestines. As regards locating the pain at any point of the small intestines, it cannot be done; first, because the loops of intestine have no distinct order as to locality; second, the patient cannot discriminate a point of pain at any given point,—perhaps from lack of practical experience. With few exceptions, to locate the seat of trouble in acute ab-

* Byron Robinson, B.S., M.D., North Carolina *Medical Journal.*

dominal pain, we call to our aid the pain elicited by pressure. Pressing the abdominal walls produces a distinct localized tenderness or pain which suggests localized pathology. Again, rigidity or tension of the abdominal wall is suggestive of a pathological locality. This symptom is purely reflex, due to irritation passing from the involved viscera to the spinal cord, whence its irritation is transmitted to the periphery of the lower intercostal nerves which control the abdominal muscles over the seat of pain. Dashing cold water on the belly will produce similar protective muscular rigidity. Hence, in general, the location of disease in the abdomen from the patient's feeling of sudden acute pain is quite indefinite. But local tenderness and local pain on pressure aid very much. Localized rigidity of the abdominal wall is suggestive that such tension is protecting the seat of disease from motion, further bacterial or fecal invasion. In short, the rigid muscles are putting the pathological parts to rest.

Vomiting is a general characteristic of sudden acute abdominal pain. In sudden acute abdominal pain, from visceral lesions, nature makes profound effort to manifest its distress, but to diagnose the seat of pathology and nature from the localization of the pain requires much reading between the lines from experience and judgment.

Again, a vast difference arises between sudden acute abdominal pain and the pain which comes on slowly. Much depends on the stage of the disease in which the physician first visits the patient.

The signification of sudden acute abdominal pain may be realized better by a short consideration of some of the principal conditions which occasion it.

The first class of sudden acute abdominal pain chiefly arises from the digestive tract. The second class arises from the genito-urinary.

(1) In the category of the digestive tract, producing sudden acute abdominal pain, we place *interstitial obstruction* from (*a*) strangulation by bands and through apertures; (*b*) invagination; (*c*) volvulus, and (*d*) perforation. The mode of onset in all these is sudden and violent and nearly always accompanied by vomiting.

Strangulation by bands and through apertures constitutes one-third of all interstitial obstructions. If the bowel loops slip through the inguinal or femoral aperture, digital examination will detect the cause of the sudden, acute abdominal pain. Obturator and sacrosciatic hernia are seldom diagnosed, so that practically they would come under internal strangulation by peritoneal bands. Sex does not aid in diagnosis, for males and females about even up in peritonitis during life, and hence will possess about the same amount of peritonitic bands to strangulate bowel loops.

A history of previous peritonitis tells the story of strangulation by bands. Vomiting is violent, pain from peristalsis is periodic and general over the abdomen. The pain is not due to stoppage of the fecal current, but to reflex irritation of the bowel at the seat of obstruction. Temperature is not conspicuous and the pulse is not much changed. Tympanitis arises in exact proportion to the peristalsis of the bowel wall above the seat of obstruction. At first the pain is violent, it subsides with the progress of the case, becoming more continuous and generally diffused. If the patient be quiet, the pain is so slight that it deceives the most elect. No stool, no gas per rectum, no detectable swelling at any hernial aperture with continuous abdominal pain and vomiting demand surgical notice. The temperature and pulse are not reliable. Strangulation by bands will generally give no tender location on pressure and no detectable swelling, and, in fact, I have watched cases with the abdomen quite soft and pliable with no possible physical point of diagnostic value, not even tympanitis. In one case the pain was at first severe, general, and almost subsided the day before the operation, yet fifteen feet of gut was as red as a sunset. The sudden, acute abdominal pain is not due to the constricting band, but to reflex irritation transmitted to the abdominal brain where reorganization occurs, whence it is emitted to the whole digestive tract, inducing violent, disordered, and wild peristalsis (colic).

Acute, sudden, abdominal pain, due to a constricting peritoneal band is one of the most obscure matters to inter-

pret. To explore the abdomen in the proper time for such cause requires a wise diagnostician and a bold surgeon. The matters to bear in mind in strangulation by bands are the acute, sudden abdominal pain with a violent onset, vomiting, and the distinct colicky, peristaltic, periodic character of the suffering, not forgetting a previous history of peritonitis. However, the sudden, acute abdominal pain arising from strangulation of a loop of bowel by peritonitic bands is difficult to interpret and seldom diagnosed. It may be asserted that when a patient is suffering from some grave disease, manifest only by sudden acute abdominal pain, the nature of which cannot be interpreted, an early explanatory laparotomy is justifiable and demanded. Such obscure cases require an experienced and skilled surgeon in abdominal work to meet any emergency. I remember very distinctly the case of a man about forty who gave consent to my colleague, a general practitioner, who was entirely untrained by experience or observation in abdominal surgery. The doctor told me he opened the abdomen and found a band stretching tightly across the ascending colon. But he said "the colon was black, and I did not know what to do with it, so I closed the abdomen." It is needless to say that the man made a prompt, fatal exit. But most cases die undiagnosed. The danger of strangulation by bands is gangrene and perforation.

Invagination constitutes about one-third of all interstitial obstructions, and the sudden acute abdominal pain arising from this cause is more easily interpreted. Age signifies much in this case, for one-fourth of all invagination occurs before the end of the first year of life, and one-half before the end of ten years. Invagination is a disease of childhood. Its mode of onset is sudden and often violent. From some twenty-five experiments in invaginating the bowel of the dog, I am sure the pain is periodic at first. The griping, colicky, peristalsis is rhythmic, depending on irritation. At stated times the dog suddenly spreads wide his four feet and arches his back, appearing in severe distress, then gradually recovers his natural attitude. In invagination blood occurs in the stool in 80 per cent. of cases (especially children), and the vomiting is not violent nor even always conspicuous, for the bowel is only partially occluded. Seventy per cent. of invaginations occur at the ileo-cecal apparatus,—that landmark in man's clinical history,—15 per cent. in the small intestines, and 15 per cent. in the large bowel. Invagination manifests abdominal pain similar to a long enterolith in the bowel which in turning leaves small spaces at its side for the passage of gas and some liquid stool. I have, unfortunately, watched a case of enterolith day after day, not being able to interpret the abdominal pain or to diagnose the case until gangrene of the bowel occurred at the seat of the enterolith, when nature asserted sufficient manifestation to explore the abdomen, but with a fatal result. The most skilled of abdominal surgeons repeatedly examined this case, but could not interpret the acute abdominal pain which came on suddenly, though as the days glided on it quietly subsided. The patient was a physician, but could not localize any abdominal pain; it was diffuse. Temperature was about 99½° and 100°F., and the pulse was 85 to 95 almost the whole week of illness. The abdomen was generally soft and not tympanitic. Very seldom can an abdominal tumor be felt in the bowel invagination. Shock in young children is quite conspicuous, yet I personally know of two autopsies in infants who were attended in life by three of the most skilled Chicago abdominal surgeons, yet in neither case was the diagnosis of invagination made, which the post-mortems revealed as the cause of death. A skilled and experienced physician, such as was the late Dr. Jaggard, took an eight months' infant and stripped off the clothing to be more thorough in examination, and yet, after all his diagnostic skill, failed to locate disease in the bowels. The child was very pale, cried a little, and died thirty hours after the attack. The autopsy revealed ileo-cecal invagination.

Sudden, acute abdominal pain in a child may with high probability be interpreted as invagination, especially if one can detect the periodic, peristaltic character, its colicky nature. Blood followed in the stool is almost pathognomic. A tumor will rarely be found,

and pressure on it will not generally elicit tenderness. It is not at all likely that the patient can locate the seat of disease from the pain. Tympanitis and vomiting are not conspicuous, and the temperature and pulse are unreliable. The danger of invagination is sloughing of the apex or neck and consequently perforation. Invagination presenting at the anus interprets easily the cause of the pain. Volvulus is so rare that it constitutes about one-fortieth of all interstitial obstructions, and occurs about four times as often in men as women. As in invagination so in volvulus, I was always compelled to suture them in position in a dog. But I never succeeded in establishing a permanent volvulus in the dog. Volvulus is characterized by tympanitis, and it is said by severe periodic pain. Volvulus occurs at the sigmoid in 60 per cent. of the cases; at the ileo-cecal valve in 30 per cent., and in the small intestines in 10 per cent. I have seen partial, but never complete, volvulus in man. Senn operated successfully on a man, on the eighth day, for sigmoid volvulus. The man had enormous tympanitis; his pain is not described as severe, but no doubt the suffering is severe.

At first the pain is periodic, but as time advances it becomes more constant, with now and then exacerbations. Vomiting, though not conspicuous, must arise more or less from trauma to the peritoneum. Perhaps the sudden pain, chronic constipation, and rapid rise of tympanitis would aid in interpreting volvulus, but seldom can one diagnose such a disease, pain, no doubt, would be referred to the abdominal brain. Most clinicians note tympanitis as a conspicuous feature of volvulus.

In perforation it is very difficult to interpret the sudden abdominal pain. Associated circumstances would aid. In typhoid fever one would naturally suspect perforation if sudden acute abdominal pain arose, and my colleague, Dr. Van Hook, successfully operated on a typhoid perforation diagnosed by his medical friend. One might think if he was called to a young woman with sudden acute abdominal pain that it was a round, perforating ulcer of the stomach, after excluding pelvic and appendicular disease. But the sudden acute abdominal pain of perforation is so vague and indefinite that only an explanatory incision would interpret it.

The sudden acute abdominal pain from appendicitis (perforation) is more apt to be diagnosed. Now probability is the rule of life, and when one is called to a boy or a man up to thirty-five with sudden acute abdominal pain, it is likely appendicitis. The pain of appendicitis is, in my experience, a characteristic and conspicuous feature of it. The sudden acute pain in appendicitis is doubtless due to violent appendicular peristalsis (colic) or the rupture allowing the bowel contents to come in contact with the peritoneum, and also inducing violent irregular peristalsis of the adjacent bowel loops. Rigidity of the abdominal muscles over the seat of pathology in appendicitis is a great aid to interpreting the pain. The muscular rigidity is protective and due to the transmission of the visceral irritation to the spinal cord which is reflected to the abdominal muscles. There is a nice balance between the peripheral visceral nerves and the peripheral nerves in the abdominal muscles. Local tenderness and local rigidity of the abdominal muscles is a great aid in signification of the sudden acute pain in appendicitis. It might be well to suggest that the position of the appendix located all the way from the under surface of the liver to the floor of the pelvis, and also many times where there were more or less of a mesenterium commune, the cecum turned towards the vertebral column, and the appendix is then liable to lie among the small intestines,—the dangerous ground of peritonitis. It is likely that the pain in appendicitis depends on the seat of the disease,—*i. e.*, the mucous membrane has become ulcerated, inducing appendicular colic (peristalsis), while the sudden exacerbation of violent diffuse abdominal pain is due to the involving of the peritoneum itself. I see nothing especially worthy of attention in the so-called McBurney point. Pain over the seat of pathology is certainly a natural feature, and generally the appendix lies under a point midway between the umbilicus and the anterior superior spine of the ileum. But it is not always so by any means, for I examined with great and anxious care, a short time ago, a young

physician with severe pain over the so-called McBurney point, when on operation the long appendix was down in the pelvis and perforated. It is a fair proposition to say that tenderness and pain on pressure is approximately over the seat of disease, so to speak of a so-called McBurney point is redundancy. Then, again, pain on pressure may be reflex, bobbing up in remote regions of the abdomen. The sudden, acute, diffuse abdominal pain arising in appendicitis generally subsides to the right iliac fossa after thirty-six hours, and one can nearly always elicit pain on pressure. This pain on pressure is doubtless the motion transmitted to a sensitive, inflamed peritoneum, and not the dragging on an adhesion, as some assert, for adhesions so newly formed can have no nerves formed in them. But man is subject to appendicitis four times as frequently as woman, due, perhaps, to Gerlach's valve being small in man, and thus not allowing the foreign body to escape after entrance, or due to the greater activity of the psoas muscle in man. The appendix lies on the psoas muscle in man more frequently than in woman, and on its longest range of activity, hence when the appendix contains virulent and pathogenic germs the long range of action of the psoas so traumatizes the appendix that it induces the escape or migration of the accidental virulent pathogenic microbes through the appendicular walls into the peritoneal wall or cavity. Common sense and experience would dictate that the pain on pressure would occur in any point of the abdomen possessing inflamed structures. Since probability is the rule of life, it is well to look to the three great regions of dangerous peritonitis,—viz., pelvic, appendicular, and gall-bladder region.

The digestive tract has still another common seat for sudden acute abdominal pain, and that is the gall-bladder region. The sudden acute abdominal pain in hepatic colic is not generally so violent as many others accompanying acute diseases of the digestive tract. Patients relate that the pain is aching, dragging, and in the active stage cutting or tearing. Some relate a feeling of tightness or fulness. But it depends on whether the stone is attempting to enter the mouth of the duct or whether it has already entered. I have had typical cases where operation proved that the stones only attempted to enter the duct.

No doubt these are the cases which say so often that they have some severe pains at any time, but especially after taking hot meals, hot or stimulating drinks, whence arises excessive peristalsis inducing short, temporary hepatic colic. Now, when the gall-bladder has many small stones in it, and when one more or less often attempts to engage in the neck of the gall-bladder, the pain is rhythmical. It begins slowly and arises to a maximum. At the maximum the pain is intense. We have observed such cases and afterwards operated on them, removing many small stones. Gall-stones are perhaps four times as frequent in women as in men; why, we do not know. In my experience patients can generally localize the pain in gall-stones more accurately and definitely than almost any other sudden acute abdominal pain. They refer the pain to its proper locality: however, I must admit that this reference is before rupture. After rupture of bladder or duct the pain is indefinite, like other perforations. The sudden acute abdominal pain in gall-troubles is characterized by more slowness, less acute intensity, distinct periodicity than invagination, appendicitis, or perforation of the digestive tract. Jaundice is not necessary. Jaundice depends on the color of the eyeball, and not the skin. A feature in gall-bladder pain is that it extends well towards the dorsum. Age aids in diagnosing stone in the biliary passages to some extent.

In renal (genito urinary) colic it must be said that the pain resembles that of the hepatic colic in many ways, in rhythm being paroxysmal. It intermits and is often agonizingly spasmodic. It requires much careful study to differentiate the sudden acute abdominal pain in hepatic and renal colic from each other. This is important, for the plan of action is very different. The pain in appendicitis, renal, and hepatic colic are in close relation.

The sudden acute abdominal pain arising from the genitals (genito urinary) is more easily interpreted and managed. The pain can be more definitely

located by the patient and sudden disorganization of viscera, being accessible in the pelvis is much more within control of the gynecologist. The sudden acute abdominal pain from the genitals is generally a ruptured ectopic pregnancy or the very rare matter of the rupture of a pyosalpinx into the peritoneal cavity. Most other pelvic pains are of slower origin and almost always diagnosable. Sex and the reproductive age aid in the interpretation of the case.

Remember the three dangerous peritonitic regions,—viz., pelvic, appendicular, and gall-bladder.

In regard to the character of sudden acute abdominal pain, it varies as to (*a*) its mode of attack, and (*b*) as to the viscera attacked.

If one will closely watch the sudden acute abdominal pain, it will be quite apparent that the character of the pain in most of the acute affections of the abdomen is very similar. We only observe in reality a difference in degree of pain from the bearable to the agonizing, In perforation the character of the pain is the same in all viscera. In invagination it is paroxysmal and periodic, at least at first, due to irregular and violent peristalsis in internal strangulation; it is generally intense and periodic due to violent peristalsis, later continuous and of an aching, dragging character, due to paralysis of bowel segments. In appendicitis the pain is nearly always sudden and intense—*i.e.*, the perforated variety. The variety of appendicitis with slowly increasing pain is likely lymphatic in invasion and not dangerous, simply medical, of course the appendicular mucosa may be perforated. Sudden, acute abdominal pain of a lancinating character, and being quite continuous is very liable to be perforation of the appendix or digestive tube, and the continuous, agonizing character of the pain is a heraldic symptom of diffuse peritonitis, the knell of life. It may be remembered that the character of the sudden acute abdominal pain will depend on the capacity of any viscus for peristalsis—*i.e.*, its capacity to cause colic by violent, wild, irregular muscular action. In peristalsis periodicity must not be lost sight of, and the etiology which gives rise to the irritation, inducing the peristalsis. It may be transitory in character, as food irritation, rapidly forming and reducing invagination or a stone attempting to enter a duct. Or the pain may be continuously periodic, as a stone lodged in some canal, appendix, ureter, small intestine, or biliary ducts.

In regard to the location of sudden acute abdominal pain we have to consider (*a*) the seat of the pain as felt by the patient; (*b*) the pain elicited by pressure (tenderness); (*c*) local rigidity of the abdominal muscles; and (*d*) anesthetic or hyperesthetic condition of the skin of the abdomen.

In general, sudden acute abdominal pain is referred by the patient to the umbilical region, to the solar plexus, directly over the abdominal brain. This, in my opinion, is a nervous center, possessing the power of reorganization, receiving and transmitting forces of controlling visceral circulation and of inducing reflex or referred pain. The irritation of peripheral visceral nerves is transmitted to the abdominal brain, whence reorganization may make the pain felt over the abdominal brain, at the seat of pathology or a remote abdominal point due to a very supersensitive nervous system.

As to local tenderness or pain elicited by pressure, it indicates a pathologic condition of the peritoneum (inflammatory). The pain is induced by motion or disturbance communicated to a sensitive inflamed peritoneum.

Local rigidity of abdominal muscles indicates adjacent underlying pathology of organs supplied by the same nerves as the muscles which exercise a protective agency to preserve rest for damaged tissue to assume repair and prevent further destruction from motion. Hyperesthesia or sensitiveness of the skin, due to transmitted irritation, is often present, but is not very reliable as to locality, for it is dependent on peculiar symptoms, and accompanies, more or less, though irregularly, most acute abdominal affections. Of course, it would be expected that the severe sudden acute pain in the kidney and gall-ducts, being very near to the abdominal brain, would be difficult to separate from the solar plexus. Lead colic may deceive the most elect as to its etiology or seat.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, October 28, 1896.

The President, DR. J. C. WILSON, in the chair.

DR. JOSEPH PRICE read a paper upon

SURGERY FOR TYPHOID PERFORATIONS.

[See page 577].

DISCUSSION.

DR. GEO. E. SHOEMAKER said that the time has come when the courage which it takes to operate in cases of typhoid perforation is to be rewarded. Granted that the diagnosis has been carefully made, it seems that the surgeon should not hesitate to intervene in this way with the object of saving an almost hopelessly lost life. Too great emphasis, however, cannot be placed upon the importance in this connection of rapid and deft surgery. The man who is unskilled in the best technic adapted to work of this kind should certainly not attempt this character of operation. The parts will not bear handling. No touch upon a peritoneal surface must be made unless it has a definite object to accomplish, and after this is accomplished the parts must not be meddled with. With rapid surgery and the knowledge obtained from dealing with septic peritonitis, which leads us to use gauze drainage in addition to glass drainage, the surgeon will certainly obtain some reward for efforts in this direction.

DR. F. WOODBURY said that Dr. Price is to be congratulated on his results, especially in view of the circumstance that these cases were brought from their own homes to the hospital in the third week of typhoid fever and with perforation and peritonitis, in what is generally regarded as a very serious condition, and one indeed in a state of collapse. Dr. Woodbury noticed years ago in hospital experience a long series of cases in which the patients with typhoid fever, who were removed to the hospital in the second or third week of the disease, were very likely to die. They did badly, and the disturbance and change of surroundings, and the nervous excitement attending the change at the height of the disease, were sufficient to seriously disturb the prognosis. Dr. Woodbury asked if, in a series of cases of the character under consideration, suffering from this grave complication of typhoid, the prognosis would not be somewhat improved by doing the operation at the patient's own home instead of transporting him or her to a hospital? And, in the second place, as to the indication for operation. May it be assumed in all cases of typhoid fever in which there is an appearance of local peritonitis, that a perforation has occurred and that celiotomy is indicated? A third question is: Can we obtain from the character of the discharges any guiding principle, or any assistance in making up our opinion as to the necessity for this operation?

For instance: in a case in which during the third week of typhoid fever the patient has committed some excess in diet, has eaten some hard substance, or taken some orange-juice and swallowed a seed, and perforation has resulted; knowing this fact, it would seem that the indication for operation would be imperative. Also, when the discharges from the bowel are very fetid and may be assumed to be highly toxic in character, their presence in the peritoneal cavity would be a powerful argument in favor of operating.

On the contrary, if, in the treatment of the disease, the bowel-contents have been kept in as nearly an aseptic condition as possible by the administration of some such agent as B-naphthol, or naphthalin or guaiacol, so that the discharges are kept almost odorless, and when there is otherwise doubt as to the necessity of operation, would this fact throw the balance in favor of delay or not?

DR. W. E. HUGHES said that, as a physician, he was perhaps a little more ready to recommend operation than a surgeon might be, but it is unquestionable (certainly from his experience) that a pronounced perforation in the course of typhoid fever means infallibly death, unless prevented by operative interference. He does not look on perforations in the course of typhoid fever as very largely mechanical, but thinks that there is usually preceding them a certain amount of local peritonitis. That is, the process has been virulent enough to infect a small area of peritoneum about the ulcer. Perforation in the course of typhoid fever, then, can be resolved into possibly two classes: one, in which the process is an exceedingly virulent one, and, after a preliminary very trifling peritonitis there is a large perforation, free escape of contents of the intestines into the abdominal cavity and necessarily widespread peritonitis. Cases of this kind die within a few hours or a day at most after perforation. There has usually been a well-marked history of typhoid fever, and there can be little mistake in diagnosis. In the other class of cases perforation has been more prolonged, or at least there have been primary adhesions preceding perforation, and here there may easily arise a very serious error. From past experience, Dr. Hughes would be inclined to recommend for operation not a case of simple peritonitis,

but a case in which this peritonitis had become pronounced enough to be recognized as ushering in perforation, because then he would fear acute peritonitis, or after perforation had occurred that there would soon be peritonitis. The diagnosis of perforation in typhoid fever is exceedingly difficult in the walking cases in which no clear history of typhoid fever can be obtained, but in which there is unquestionably a local peritoneal condition, which would indicate operation, and whether the case be one of typhoid fever or of appendicitis.

Dr. Hughes related the history of a child some seven years of age, seen in consultation, who presented a history of rather indefinite belly-pain, with some little irregularity of the bowels for ten days or so before the acute onset. The attending physician maintained that there had been no elevation of temperature whatever until three days previously to the visit. Then there was a rapid rise in temperature, with extreme distention of the belly, vomiting, and a great deal of pain. The child became wildly delirious, and appeared extremely ill.

When the child was first seen there was a grave suspicion of typhoid fever, but nothing to base a positive diagnosis upon. There was a little rigidity in the right iliac fossa, and a peculiar doughy feel of peritonitis, and operation was advised. The surgeon consulted refused to operate because the case looked so much like one of typhoid fever and minimized the local symptoms. On the following morning the belly had become soft, the temperature had fallen, and typhoid spots were visible. Two or three days later sudden collapse occurred, with death. Post-mortem examination showed a localized abscess following on perforation and then giving way of adhesions. The case was one of typhoid fever complicated with peritonitis.

In another case, admitted to the Presbyterian Hospital during the second week of unquestioned typhoid fever, suddenly the temperature rose, the pulse fell below normal, and there was a condition of collapse, with pain in the right iliac fossa, distended belly, appreciable rigidity in the region of the appendix, followed by vomiting, which became stercoraceous, and death finally ensuing. Post-mortem examination showed that there had been a localized abscess induced by peritonitis, with rupture of the abscess and general septic peritonitis. Nine days had elapsed between the origin of the abscess and death. It would probably have been easy to have saved that patient's life by means of an operation. Thus in the class of cases in which there is a slow oncoming of the perforation operation is unquestionably absolutely necessary, and will save a large percentage of lives, the more so as these cases are rather common in typhoid fever.

Dr. Hughes scarcely believed it possible to stop intestinal hemorrhage by any operative interference, or, if it be possible, it is surely not possible to tell in which cases operative interference should be instituted. In his experience, hemorrhage in typhoid fever is a bleeding from a number of ulcers much more frequently than it is of bleeding from any one. In the last two cases, dead from hemorrhage, in which he made post-mortem examinations, the bleeding had taken place from the colon, and not from the ileum. Such cases as these are not operable cases. When there has been a sudden single profuse hemorrhage, the site of bleeding is likely to be ileum, while when there has been a series of small hemorrhages culminating finally in one large fatal one, it is more likely that the site of the bleeding is the colon.

Dr. Mordecai Price said that as a general thing he believed that when actual violence has been done to the bowel, the ulceration is of the character of simple impinging upon the peritoneum, and, as has been said, a patch has been applied, and if the leakage takes place it is confined to a small area of the peritoneum, and there is ample warning of the danger to the patient. In these cases we have almost assurance that surgery will be a saving of life.

In the other cases in which from some violence or straining, or from some foreign body that comes in contact with the ulcer and produces perforation, general peritonitis and death are likely to result in a very few hours, and unless the lesion is one that has been anticipated, the results of the operation, to be sure, are very doubtful, but surgery should be attempted in these cases.

Dr. Price contended that the danger of transporting cases to the hospital was not so great as that of failing to do so early enough. It would naturally be better to do operations at home if the patients were favorably situated. But the surroundings are often our masters. For instance, many cases to be operated upon come from hovels and without a clean towel or a clean basin in the house. In many cases it is necessary to supply not only the surgery, but also clean bed-linen and bed-clothing. For poverty-stricken patients requiring operation the hospital is unquestionably the best place. The surroundings are better, the nurses are better, the food is better, and the whole *morale* of the case is better.

Dr. J. B. Roberts said that no modern surgeon, educated in current methods, would hesitate to operate upon a case of perforation in typhoid fever. Of course there are surgeons who, perhaps, have not come quite to the modern standard in practice who might refuse, because they have not become quite convinced of the value of antisepsis and asepsis. The indications seem clear that in any sort of a perforation in the belly the abdomen ought to be opened and the perforation sewed up. The operation will, of course, very often prove fatal. It does not make any difference about statistics in these cases any more than it would in intraperitoneal rupture of the blad-

der. It is the surgeon's duty to do what he can as promptly as possible, and not to be deterred by statistics in surgery or any line of treatment. It is better in the majority of surgical cases to remove the patient to a hospital or some place where proper surroundings can be secured.

DR. G. G. DAVIS said that the question of operation has been settled practically by the physicians themselves, when they state that recovery is virtually impossible without it. The late Dr. William Hunt used to boast that he was the only known case in Philadelphia of recovery from perforation in typhoid fever, without an operation—a fact that would go to show how seldom such a recovery is. The mortality from operations undertaken for typhoid perforation will be very high, at all events, from the earlier ones. The patient who has a perforation is usually in a somewhat advanced stage of the disease, with a weak heart, and is likely to be extremely debilitated. The operation is one that not only requires skill, but exceptional skill. Everyone, perhaps, may not possess the required skill, and certainly the mortality that has heretofore existed does not compare with the results related by Dr. Price.

There is probably nobody in Philadelphia who does more operative work in abdominal affections than does Dr. Joseph Price, and for him to be able to report only three cases of operations after perforations shows that there must occur a large number of perforations in patients who are permitted to die without being given the chance of operation. For that reason the responsibility of operation is one that devolves largely upon the physician.

Dr. Price has raised the question of the effect of the anesthetic on the patient. While in some cases ether does bring up the pulse, at least for a time, it cannnot be maintained that patients do not suffer shock from operations. Almost all operations that are accompanied by anesthesia are productive of greater or less shock, and the truth probably is that prolonged anesthesia does diminish the probability of recovery.

DR. ALFRED STENGEL agreed with the statement that intestinal perforations are of different sorts. In his experience they have very frequently been minute, or accompanied by a localized peritonitis, and rather gradual in their pathologic development, if not in their clinical manifestations.

While anyone who understands the conditions presented will not for a moment doubt the advisability of modern surgery in dealing with intestinal perforation, it must be realized that the operation in itself is one of the extremest difficulty. Very frequently the most successful, the most deft, the most experienced surgeon in this very particular line of surgery will fail to find the lesion or all of the lesion. In some cases there are several perforations, some of which may be found with the greatest difficulty post mortem, and this difficulty will arise in even greater measure to the operating surgeon. Complete resection of the bowel would, of course, obviate the necessity of looking for separate perforations in cases in which a limited part of the bowel is involved; but if trimming and stitching, and not resection are practised, it will be necessary to find each separate perforation. In some cases these are so covered by lymph and without marked extravasation of intestinal contents that some perforations are liable to escape notice. In Dr. Stengel's experience in post-mortem work, the intestinal lesions in cases of large hemorrhage, cases of rapidly fatal hemorrhage, have almost without exception been in the colon near its junction with the ileum, or in the ileum just above the valve. In these cases there are very large ulcers as a rule, and in a very considerable proportion this is the only seat of disease, ulcers being absent or very few in the ileum or lower part of the colon. It would be excessively difficult to manage such a case; and there may be some doubt that operation is indicated in these cases. Intestinal perforation in the course of typhoid fever is not a condition for medical treatment. There have been cases of recovery even with the formation of fistulæ, but these cases are so exceptional that they have practically no weight whatever in the discussion. When intestinal perforation has occurred the case may be considered out of the physician's hands. The question then is whether the surgeon wishes to undertake the operation. The physician's only responsibility in these cases lies in his calling in a surgeon; if the surgeon refuses the operation, the responsibility is upon him.

DR. G. G. DAVIS related the case of a man who was brought into the hospital some two or three years ago, a foreigner, unable to speak English, totally delirious, with hurried, rapid, breathing, very weak pulse and a temperature of about 104°. The abdomen was very much distended and there was dulness in the right iliac fossa. There was absolutely no history to be had. The patient was evidently extremely sick and apparently at the point of death. It was thought that possibly there might be some trouble with the appendix. Operation revealed a distended cecum, while the appendix was found to be somewhat inflamed, but evidently not enough so to account for the general condition. Further investigation showed the small intestine adjacent to the cecum to be agglutinated in a plastic purulent peritonitis. At this point the patient exhibited symptoms of collapse, so that some of the adhesions were broken up, the surrounding area packed with gauze and drained and most of the wound left open. The patient died, and post-mortem examination revealed two perforating typhoid fever ulcers in the neighborhood of the ileo-cecal valve. The case serves to illustrate the difficulties attending operations of this kind. To have persisted in a search for the perforations and to have closed them would have caused death promptly upon the operating table.

Dr. J. C. Wilson said that the great majority of cases of perforating ulcer of the bowel in enteric fever perish promptly from general peritonitis and collapse. The exceptions to this rule are extremely rare. In some few cases of perforation immediate general infection of the peritoneum is prevented by adhesions of the wall of the gut to adjacent viscera. Local peritonitis and abscess-formation, with its attendant dangers to life, result. There are also cases, but their number is few, in which all the signs of peritonitis develop and recovery takes place without subsequent trouble of any kind. It was a case of this sort, seen seven or eight years ago, that led to the communication referred to by Dr. Price. The patient was a girl about nine years of age who, about the twentieth day of the attack, suddenly developed symptoms of peritonitis. Dr. Keen was asked at once to see the patient with the view of operating. The necessary preparations were made, but after some hours, slight improvement having taken place, the operation was deferred until the following day. It was then found that the pain and tympanites had diminished and considerable improvement in the general condition had occurred. The patient made a good recovery without operation. She was treated by opium in full doses. Dr. J. Ewing Mears has suggested that the surgeon has three procedures at his command in the cases of intestinal perforation during enteric fever. First, he may find the lesion, trim out the involved portion of the gut and stitch the perforation; second, he can resect the compromised portion of the gut; and third, in default of being able to satisfactorily carry out either of these plans he may simply make an artificial anus, treat the peritoneum according to the indications in individual cases and wait. Of course these procedures are desperate, but the case is desperate and in ninety-nine out of every hundred accidents of this kind without surgery death is certain. The condition should be approached just as would be a fulminant case of appendicitis. The lesions are in the great majority of instances massed in the neighborhood of the ileo-cecal valve. Perforations rarely occur more than eighteen or twenty inches above that point in the bowel.

In some instances abdominal tenderness, excessive tympanites, tremor and hemorrhage from the bowels precede perforation. These symptoms must always be looked upon as danger-signals. Under such circumstances the possibility that prompt surgical intervention may become necessary is to be considered and it is a good practice for the physician in charge of the case to at once divide the responsibility with a surgeon, who can see the patient at intervals in consultation. The greater number of perforations, however, develop suddenly. When the symptoms of perforation show themselves the case practically passes out of the hands of the physician into those of the surgeon. The condition is so desperate that the surgeon often hesitates to perform an operation attended with so little hope of success. Speaking from the standpoint of the physician, Dr. Wilson contended that under such circumstances the physician is justified no longer in merely requesting, but he should at once demand that the surgeon shall lend his aid in the effort to avert impending death.

Dr. Joseph Price expressed regret that there is not a specialist in intestinal surgery in the world specially equipped and always prepared for emergencies. With the aid of such an operator more cases could no doubt be saved. Thus, in a case of typhoid under observation for two weeks, and running a uniform course, the physician, if a keen clinician, anticipating perforation, will suggest the association of a surgeon as soon as symptoms pointing to that condition arise. If there be not time to associate a surgeon the physician should use a pocket-knife, pulling out the gut and sticking a darning-needle in; then cleansing and draining with gauze. The result will be better than with no operation; but whatever the method used, it must be rapid and simple. It will never do to waterlog patients with ether. In none of the cases recorded did the operation last longer than one hour.

Dr. Price related that he had a great many times opened the abdomen for general suppuration in which he did not even seek the fistula, employing only irrigation and the open treatment. A large proportion of the patients recovered, although many were in collapse. Secondary operations in other cases have given evidence of the fact that ulceration had existed in the primary operation.

Dr. Price referred to a case of multiple perforation seen years ago, in which the patient's condition was so desperate on the table that the ether was withdrawn. The state of the bowel for some 12 inches was bad, but the defect was repaired as well as it could be, as the condition would not justify such extensive resection, and the ileum at a healthy point 20 inches from the ileo-cecal valve was connected with the colon. The woman recovered, and is in good health yet.

Referring to the transportation of these patients, Dr. Price said that his results have always been best in private practice. In a series of over two hundred abdominal sections in alleys and courts, with the nurse sleeping on an ironing-board or three chairs (until he could afford to have a cot taken around), with a cesspool four feet off, and everything calculated to be detrimental, only one case was lost, but such work required an enormous expenditure of vital force. Besides, nurses do not, as a rule, care to go into alleys or courts and do that sort of work, no matter how well they are paid. In a long series of cases the patient's home is to be preferred, if provided with the bare necessities of life, a couple of basins, a tea-kettle and water; but on account of the great amount of time consumed in making visits at long distances, it is more convenient to have one's patients concentrated in one place.

Dr. Price insisted that operation in cases of typhoid perforation to be successful must be prompt; delay is fatal. Allusion was made to the case of a boy who had fallen from a hatchway and developed abscesses in three or more mesenteric glands. It was not thought that the fall was more than a coincidence, not a cause, that the boy was ill, that the typhoid suppuration in the mesenteric glands had been overlooked. Recovery followed section and open treatment. Dr. Price added that he had only recorded those cases that he was satisfied were typhoid. He had also operated on some of stercoral fistula that he is satisfied were typhoid perforations.

DR. J. T. RUGH read a paper entitled

PROFOUND TOXIC EFFECTS FROM DRINKING LARGE AMOUNTS OF STRONG COFFEE.

[See page 549.]

DISCUSSION.

DR. J. B. ROBERTS related a similar case seen ten years ago in a man under treatment for pneumonia. He was convalescing nicely, when suddenly he became very excitable. Dr. Roberts was sent for at night and found the man evidently intoxicated with something, but could not find out with what. The patient had not been taking any alcoholic stimulant of any account. Subsequently, on further inquiry, it was learned that some enterprising druggist had sent the man a sample bottle of bromo-caffein and that he had taken large amounts of it. The diagnosis was then clear. The symptoms had been distinctly those of caffein-poisoning.

DR. J. MADISON TAYLOR said that cases of peculiar susceptibility to drugs often have to do with a variety of causes, among them alterations in conditions of personality. He referred to a case of bromism in which the man became quite maniacal. The mania was of the sudden and violent order and it had been taken into consideration by those who first saw him that he was taking occasionally, for a very simple cause, bromids, which he increased on his own responsibility, with the result of inducing the profound effects referred to.

DR. M. PRICE said that he has observed many cases of nervous excitability, inability to sleep and indigestion and other symptoms attributable to improper food in which investigation showed that coffee was the only substance to which responsibility could be attached; and on avoidance of the stimulant the symptoms disappeared.

DR. JOHN B. ROBERTS read a paper on

THE PERFECT SURGICAL NEEDLE; WITH REMARKS ON COMMON DEFECTS IN NEEDLES.

[See page 583.]

DISCUSSION.

DR. JOSEPH PRICE contended that the resistance encountered in passing needles does not take place at the point mentioned by Dr. Roberts. Erichsen, in his *Military Surgery*, attributes death to tight sutures and suture-tracts. Charles Hunter called attention to the fact that a suture should always fill up the needle-track. With the needle proposed it does not. This needle offers great resistance in its huge belly, between the point and shank of the needle, more so than any needle in use. This will cause more difficulty in penetrating tissues than any other needle in the group presented, more suture-tract abscesses, more liability to clot along the track of the needle, more suppuration, pain and sepsis. In Dr. Price's opinion surgical needles should be fine, straight and sharp, with a perfect point, and without belly and cutting edge. Keith's is the ideal needle, which can be placed nearly everywhere. Tetanus and sepsis have a number of times followed the use of the Baker Brown or Peaslee handled needles—that old bayonet-needle, with a handle, commonly used for perineal work.

DR. G. G. DAVIS said that for certain deeply-lying tissues the Hagedorn needle is pre-eminently suitable and not bad elsewhere. The glover's needle is an absolutely useless needle. While workers in leather may know what they want, it is not good enough for surgeons, because, as sold, it is not polished. It is too much to expect nurses to sharpen three-cornered needles or needles of any kind. Instrument-makers themselves not infrequently fail to furnish well-sharpened needles.

DR. GEO. E. SHOEMAKER said that it is not uncommon to see a man with a towel, trying to push a needle through the skin and uttering imprecations. This is due largely to the oxidization of the needle in boiling. For some time it has been Dr. Shoemaker's practice to sterilize needles by holding the eye in an alcohol flame before the operation; then, throwing them into alcohol until needed. Treated in this way, needles need not be boiled. They always keep bright and pass through the tissues readily; and their use is unattended with complications.

It has been found that neuromata after amputation almost always appear in scar tissue, and are especially fixed against the sawn end of the bone. Senn endeavors to obviate this by amputating the nerve high up in the tissue, and then cutting a V-shaped wedge out of the distal end, uniting the two flaps with sutures so that none of the interior of the nerve-trunk is exposed—all nerve tissue is covered in by the endothelial sheath.—*The Medical Age.*

The regular meeting of the medical section of The Buffalo Academy of Medicine, was held November 10, with this program: "Case of Chronic Diarrhea Successfully Treated by Lavage," Dr. S. A. Dunham.—"Importance of Early Attention to Hypertrophy of the Naso-Pharyngeal Lymphoid Tissue," Dr. F. W. Hinkel.—"Reflex Effects in the Pharynx and Mouth of Intra Nasal Disease," Dr. Horace Clark.

DELAWARE STATE MEDICAL SOCIETY.

Meeting June 9, 1896.

The one hundred and seventh annual meeting of the Delaware State Medical Society was held at Newark, Del., June 9, 1896, President James T. Massey in the chair.

DR. H. G. M. KOLLOCK, of Newark, a member of the committee of arrangements, welcomed the society in a brief address of happily chosen phrases, and the Society then proceeded to the transaction of the regular business.

The following resolutions were offered by the Board of Censors and adopted by a unanimous vote of those present:

WHEREAS, Recent legislation in the State of Delaware provides for a Board of Examiners to protect the people of the State from irregular practitioners; and

WHEREAS, There are a few practicing physicians in the State who violate all laws of decorum in their relations with their patients and the public; therefore,

Resolved, That the Delaware State Medical Society appoint Drs. Willard Springer and P. W. Tomlinson, of Newcastle County; William Marshall and E. W. Cooper, of Kent County; and W. P. Orr and R. G. Ellegood, of Sussex County, a committee to draft a constitution, by-laws and code of ethics for the government of the members of this society.

The following officers were chosen: President, William Orr, of Lewes; vice-president, Willard Springer, of Wilmington; secretary, P. W. Tomlinson, of Wilmington; and treasurer, W. C. Pierce, of Wilmington. Delegates to American Medical Association, Newcastle County: Willard Springer, P. W. Tomlinson, Irving S. Vallandigham, Frank Belville, H. G. M. Kollock; Kent County, William Marshall, James T. Massey, James H. Wilson, L. A. H. Bishop, Nathan Pratt; Sussex County, O. D. Robinson, D. D. Palmer, James A. Hopkins, H. R. Burton, Joseph B. Waples; censors, Newcastle, A. Lowber, F. L. Springer, W. T. Skinner; Kent County, William Ashcraft, P. S. Downs, E. W. Cooper; Sussex County, E. D. Palmer, W. B. Jones, O. D. Robinson. These names were nominated to be presented to the Governor from whom to choose two members of the State Board: R. B. Hopkins, O. D. Robinson, H. R. Burton, J. T. Massey, D. D. Palmer, R. G. Ellegood, P. W. Tomlinson, Willard Springer. Delegates to the Pennsylvania State Medical Association: W. C. Pierce, P. T. Carlick, D. L. Mustard; New York Association, H. J. Stubbs, W. J. Davis, C. R. Layton; New Jersey Association, W. G. Winner, George W. Marshall, R. B. Hopkins; Delaware State Pharmaceutical Association, Smith Cooper, John W. Clifton, W. W. Marsh.

DR. A. T. NEALE read a paper upon

"Contagious Diseases of the Lower Animals and Their Relation to the Human Family."

From the speaker's connection with the United States Experiment Station he was able to speak with clearness upon the prevalence of anthrax and tuberculous diseases in cattle. He gave a brief *resumé* of the present condition of the law in the State relative to these two diseases, and claimed that although the provisions of the law were severe, it was yet practically imperative, from the fact that insufficient provision was made to indemnify for losses. The annual limit is $300, and the first person in whose stock either disease is found is likely to get all of that, leaving nothing for subsequent sufferers. If a man knows that he is liable to the loss of his stock through their condemnation as affected, that a quarantine will be declared involving further loss, and that for all this there will be no compensation, he is very likely to conceal any deaths that may occur among his cattle, bury the corpses upon his land, sell any that show symptoms of illness, and thus spread the infection until it becomes endemic and then epidemic.

If provisions were made under the law for the proper maintenance of a station for the dissemination of preventive means, and if there was a proper compensation allowed for losses from quarantine, etc., all owners of stock would readily report all suspicious cases, and the disease could then be stamped out. The years to come will doubtless show a complete development of a protective inoculation for anthrax and pleuro-pneumonia as vaccination is of small-pox, but the period will be distant so long as there is no fund for such development.

If the laws are inoperative amendments should be sought before the State Legislature to make it operative, and in this line would be one allowing the Governor to employ State funds in the purchase and use of protective vaccines, whether they be those of anthrax or rabies, or any other similar disease, and permission to use funds in the interest of the individual just as he is now empowered to use them in the employment of the sheriff, of constables and of the machinery of the law in general, in the establishment and maintenance of quarantine. Whether the necessary vaccines can and should be purchased in the open market, or whether they should be prepared in a laboratory specially equipped by the State for this purpose is a question for future debate.

Anthrax has been epidemic in Delaware since 1892, and each year new centres of outbreak are developed, many of them at distant points. This spread of the disease must be directly attributed to the inefficient provisions of the State law.

Dr. Neale went into the etiology of the diseases and showed how human health was affected by their prevalence. He said that in his opinion many of the so-called summer complaints in children were directly due to the ingestion of milk or animal food from infected animals, and that more of the minor malaises than are generally thought may be traced to this cause. Although the State Medical Society had already done much in gaining legislation, more remained to be done, and they should not be weary in well doing.

DISCUSSION.

DR. BLACK desired to heartily second all that had been advanced by Dr. Neale. He has himself discovered instances where the contagion has advanced from farm to farm in just the manner described. The protective system should be used for anthrax and tuberculosis as much as for small-pox. Credit was due the State Legislature for what they had already done, but still it was true that lack of means was a hampering condition. In his opinion it was not fair to take a man's goods and subject him to pecuniary loss without any compensation, and any law based upon so unjust a principle would necessarily be more or less inoperative. He understood that an estimate had been made that fully 20 per cent. of the cattle in the State were tuberculous.

DR. NEALE.—In the first 500 cattle tested 27 per cent. were tuberculous, while the second 500 showed 10 per cent. tuberculous. Still this could hardly be taken as a fair average, as these were all cases where the station had gone seeking for tuberculosis. He thought this would furnish no reliable data for the State at large.

DR. BLACK had no doubt but that the origin of much summer complaint and other troubles could be traced to tuberculous milch cows. He advised Pasteurizing or sterilizing all food. If the food was only heated once the bacilli might be destroyed, but the spores would remain, and for absolute safety they too should be annihilated.

DR. VALLANDIGHAM.—The State Medical Society has been making all possible efforts to obtain suitable legislation, but as yet has met with but little success. Still the work has but just been begun, and it must and will go on. It would be well to appoint committees for active work in this direction. It seems in a measure like expending money for results that are not appreciable, but one must consider posterity as well as ourselves.

DR. ELLEGOOD referred to the work done by the last committee on legislation, and suggested it should be continued and act in conjunction with the United States Experiment Station to obtain necessary legislation. This was made as a motion, and carried.

DR. E. W. COOPER spoke briefly upon the limited means of the society, and said they were necessarily compelled to go slow on matters requiring heavy expenditure. But, if present theories were true, it is not only our duty, but as professional men we are under obligations to forward all means to obtain necessary legislation, even if it cause personal inconvenience and self-sacrifice.

DR. JAMES H. WILSON, of Dover, read a paper entitled "SOME OF THE SOURCES OF MALARIA."

DISCUSSION.

DR. JUDSON DALAND.—Modern science has established the fact that malaria is a waterborne disease, and that the air has nothing to do with its development and origin. In my opinion any of the so-called irregular forms are not really due to a double contagion, but merely evince different degrees of the same infection. A small quantity of the poison absorbed into the system will cause constitutional symptoms and act larger on a paroxysm. In many of these cases there is often recovery without treatment. In more, a partial treatment will serve to abort some of the symptoms, and thus an apparently abnormal form of the disease may appear. The malaria in the State is much alike in its causes, about 80 or 90 per cent. being the tertian variety. I think there is no different cause for remittent and intermittent fever, the difference in form being probably due to some lesion in association. Dysentery, when associated with malaria, is due to a double infection, both the malaria bacillus and the amœba coli being present. Still there should be no valid reason why if malaria can produce gastritis that it should not also be able to cause colitis.

As no one had prepared a paper upon the diagnosis of malaria, Dr. W. C. Pierce, of Wilmington, at the request of the society, read a paper upon "THE ORIGIN AND GEOGRAPHICAL DISTRIBUTION OF MALARIA."

DISCUSSION.

DR. C. M. ELLIS, of Elkton, called attention to the fact that malaria had cycles of development, recurring in what might be called an epidemic form at more or less regular intervals. In his own line of practice he had noted three distinct cycles, the last and greatest occurring in the fall of 1886, when in Rising Sun, Md., a town of about 2000 population or less, there was an average of about 300 cases. There was scarcely a family but had one or more cases during the prevalence of the disease. Yet this town is situated at about 600 feet above the level of the sea. In the years 1884, 1885 and 1886, malaria was prevalent all over America. In my opinion the malaria bacillus in some form or other is at the bottom of almost one-third of the diseases in general practice, and complicates almost all of the others. When the malarial affection is at its greatest intensity it dominates all the processes of the human frame. I never yet have seen a case of true remittent fever. In all the cases I have had, generally answering to that type, there has been no eventual doubt but that it was typhoid. I have seen many

cases of so-called malignant malaria, but I have never had any doubt in all but that they were typhoid.

DR. WILSON.—In all the older medical works, all the writers spoke of delirium as a characteristic symptom of remittent fever, but in all of this type I have to admit the actual known presence or the probable presence of typhoid lesions. The differential diagnosis from typhoid was generally made upon the temperature, but since the use of the thermometer has become general, we have found that there can be quite a considerable rise of temperature when the pulse and skin are apparently normal.

DR. JOHN B. BUTLER.—I would like to ask how you would make a diagnosis between continued fevers without abdominal lesions, and typhoid fever, if you accept the theory that there is no remittent form of malarial fever. We have continued fevers without abdominal lesions, and other evidences of typhoid, fevers which run one, two or three weeks, then subside, the patient convalescing without having had the essential evidences of typhoid fever. Shall all such fevers be called typhoid? My experience answers no.

DR. VALLANDIGHAM.—Speaking of the strange forms that malaria may take, I recall a case in my own practice where I was summoned to a case of "bladder trouble." The patient had no apparent heat, no flush nor any serious symptoms, but had a peculiarly changed countenance, almost idiotic in expression, and acted in a manner to correspond. I thought at first that he was malingering, and merely gave some soothing preparation. On the second day there was another attack resembling the first, and the third day showed another recurrence. Then I suspected some form of malaria, and put the patient upon quinin, with immediate improvement to recovery.

DR. C. M. ELLIS.—I thought that it was a general rule in medical practice not to give quinin in prostatic cases, and I understood that this case had such complications.

DR. VALLANDIGHAM.—Perhaps I neglected to state that these symptoms of bladder trouble had occurred a long time previous, but the patient's family, knowing that he had had such trouble, had so diagnosed this attack in calling me.

DR. ELLEGOOD.—I would like to take exception to the general statement that all so-called remittent fever is typhoid. I know that years ago we did have a remittent form of fever in which there were no abdominal lesions. There was also the absence of the characteristic symptoms, such as brown tongue, jactitation, trembling of the muscles, etc. I have known it to occur in large families, say of fifteen members or so, ten or a dozen of them being down at a time. The term typhoid now is made to cover a broad field, and takes in cases that many deny are typhoid. Early in the '50's we did have remittent fever. Of course, we had no thermometer then, and we had to judge by the skin and pulse, but there was an undeniably high fever in the evening, as shown by all external signs. The pulse would be 180 in the afternoon, and would drop to about 100 or 90 in the morning; the fever would last some eighteen hours and remit about six, the exacerbations continuing from seven to twenty-one days.

DR. JUDSON DALAND.—We do not have many cases of malaria in Philadelphia, and the entire epidemic in the Philadelphia hospital for one season was only about seventy cases. Many of these came up from the eastern shore of Maryland, and the cases were usually those of typical intermittent fever. We see so few cases of intermittent fever in Philadelphia that we really know but little more than what we are taught and have read. In all probability, Dr. Ellis' explanation of these fevers is correct, and many of the cases were probably irregular typhoid. I think the word typho-malaria shows the condition. This word has been much objected to, and the question was raised whether the case was one of typhoid or typhoid fever and malaria. I think the word was a good one.

DR. PIERCE.—With reference to remittent fever, the old writers referred to the terrible delirium that went with remittent fevers. Those who have attended a case of so-called remittent fever have found that they have typhoid lesion. The patient will tell you there has been and is no fever, but if you will take a thermometer you will find fewer present. I have never yet seen a case in which there was not a temperature of about 100, although the pulse and the skin would feel nearly normal. I believe Dr. Ellis is correct in saying that remittent fever has been mistaken for typhoid. We know that cases of pneumonia used to be called pleurisy.

The society then adjourned for dinner. On their return Dr. R. B. Hopkins read a paper on

"The Treatment of Malarial Fever."

He referred to the important part played by the cinchona salts in the treatment of malaria, and also to the value of quinin as a remedy. He laid stress upon the necessity of preparing the system to receive these remedies, and advised evacuants, diuretics and diaphoretics, mentioning the mild chloride of mercury and the salines as being preferable. He suggested the application of dry heat to neutralize the peripheral circulation, and, if the paroxysm is prolonged, a hypodermic injection of morphia and atropia. After the paroxysm has subsided, the author has found that ten grains of antikamnia in a little wine will relieve very quickly the headache and reduce the fever. Antipyrine and the other coal tar products are also good, but they must be administered with caution. If the patient be suffering with some organic disease of the heart, the local application of sponging may be resorted to

with good effect, and, in a case of nervousness, the bromides will be found very useful. After giving the purgative, one should endeavor to render the intestinal canal aseptic by using such remedies as salol, menthol and thymol, the effects of which may reach so far as a prophylactic against dysentery or diarrhea, which often follows malarial fever. Quinin should be administered in doses of three grains every one or two hours until the time of the expected paroxysm. A number of other remedies were mentioned by the author as having proven of good service, but in his opinion quinin stood pre-eminent.

No discussion.

By request, Dr. Judson Daland took up the subject of diagnosis of malarial type.

DR. DALAND.—Of course there are the general symptoms of the malarial infection, such as periodicity, etc., which have been enumerated here to-day, but there is only one pathognomonic symptom—the presence of the parasite or the plasmodium of malaria. Still, in this connection, it must not be lost sight of that the malarial parasite is an entity which lives forty-eight hours, and that as an entity it has the privilege to change its appearance as all animals do, through the different cycles of life. There have been cases when its presence was not discovered from the lack of familiarity with its different aspects in its various stages of development. I have here a series of photographs and drawings, showing the appearance of the parasite at different times in its life, showing how it attaches itself to the red corpuscle and increases in size at the expense of the stroma, until finally the pigmented body almost fills the red corpuscle. The nature of the form of the bacillus can readily be recognized when it breaks through the wall of the corpuscle and becomes a free body in the blood. Finally, this body disintegrates, and thus forms the free pigment so often found in the blood of malarious patients. The photographs also clearly show that the parasite multiplies by direct division. There is also shown the presence of a vacuole in the parasite. The theory of the paroxysm is that, when the pigmented body ruptures and disintegrates, the paroxysm of chill and fever is caused.

DR. MARSHALL desired to report a

"Case of Pernicious Anemia."

He was called in November, 1895, and at first had some difficulty in determining whether the disease was leukemia, Addison's disease or pernicious anemia, symptoms of all being present. The patient was a bank teller, aged thirty-three years. I was called in late at night and found him in an apparent faint, with a pulse of 120 and a temperature of 102°. He had all the appearance of profound anemia. After an unsuccessful attempt to count the blood corpuscles, due to the fact that decomposition had set in in the sample of blood obtained before it reached the Delaware College, I took another sample under the direction of Prof. Chester, and his count showed one white corpuscle to every 235 red in a cubic millimetre, proving beyond a doubt the nature of the disease. This would denote the presence of only about 1,300,000 red corpuscles. On November 26th another test showed 2,500,000 red corpuscles; December 7th, 3,500,000; December 20th, about 3,800,000, and on March 23d, some 4,400,000. I regret that there was no test for hemoglobin at the same time. The treatment used was that of arsenic in Fowler's solution, in doses increasing from ten to twenty-five drops three times daily. Under this treatment there has been a complete recovery, a very flattering result, as shown by a comparison with a number of cases reported in the *Lancet*, where the general termination was very unfavorable. I do not report this case so much from any novelty connected with it as from a desire to call attention to the efficient assistance the medical profession of this State have in the perfect equipment of the Delaware State College, and also to the readiness of the faculty to render any assistance in their power to advance the cause of science and to forward the interests of Delaware medical men.

A case of diabetes mellitus was also reported, in which the Delaware College had been of material assistance in determining the diagnosis. The patient had been passing two gallons of urine every twenty-four hours, and a spectroscopic analysis showed the presence of 8.40 grammes of sugar in every 100 cubic centimetres, or about three-quarters of a pound of sugar every twenty-four hours.

DR. COOPER offered a resolution of thanks to the faculty of the Delaware College for the favors, commending the aid they had given to advance scientific development.

PROF. F. D. CHESTER, of the Delaware State College gave an interesting talk upon the "Use of the Microscope in Verifying Diagnosis," illustrating, by the use of diagrams and the exhibition of instruments, the method of counting the blood corpuscles, and exhibiting slides showing various abnormal conditions. In view of the previous talks upon the malaria parasite and anemia, these points were of great interest, showing how these results spoken of were attained.

DR. C. M. ELLIS read a paper upon

"Puerperal Eclampsia.—The Indications for the Necessity of Artificial Delivery."

The author called special attention to the great danger of the convulsions of pregnancy before term. His experience included eight cases, occurring at different stages of pregnancy, and showed clearly that when a convulsion occurs before term, unless it is of systemic origin, immediate delivery is imperative, without regard to the presence or absence of uterine contractions or the condition of the os as to dilatation. If the convulsions begin early, the uterus should be emptied by the most expeditious method, and all medici-

nal treatment should be secondary to this one great object. This is necessary for the reason that the percentage of fatalities from eclampsia is fully 50 per cent. This high death rate is greatly exceeded when the delivery is not accomplished, or if it is delayed until several convulsions have occurred, or until uterine contraction and dilatation have supervened. Of the eight cases seen by the author, five died and three recovered. Of the five that died premature delivery was effected, one on the sixth day after the initial convulsion, one forty-eight hours after, one eighteen hours after, three others having followed, and the patient being moribund at the time, and one lay in convulsions three days without any attempt at delivery. The experience gained from these eight cases would certainly justify premature delivery.

Dr. Ellis had never seen a death occur before delivery after the operation had been initiated, and he believed the uterus should be evacuated immediately after the first convulsion. When albumin appears in the urine the more imminent is the danger of eclampsia, and, if this accident is threatened, it may be necessary for the attending physician to hasten delivery without waiting for the convulsive seizure. The speaker denounced the indiscriminate use of morphia hypodermatically in cases like these.

DISCUSSION.

DR. GEORGE M. BOYD.—This paper is particularly valuable in that it calls attention to the hygiene of pregnancy, a most important study during gestation, though one that is often neglected. I agree fully with the statements made by Dr. Ellis as to the paramount importance of emptying the uterus without delay, and consider this the point of greatest importance in the treatment of eclampsia. I have seen no particularly ill effects follow upon rapid manual dilatation of the cervix. In one case in which I used this method delivery was brought about in about thirty-five minutes, and in another, where the forceps were used, everything was over in less than an hour. In both cases the patient had a rapid and uneventful recovery. The chief objection to rapid delivery is that of danger to the child, but, in my opinion, the process is as necessary to the safety of the child as to the mother, since death cannot but eventually ensue under too long delay. I have used chloral by the rectum with the most excellent effects where the convulsions were severe, and have often found blood-letting of great use. A third case I recall after a delivery, presenting nothing especially unusual, died on the third or fourth day in convulsions, but here there was a history of previous interstitial nephritis.

DR. TOMLINSON.—I was recently called upon in a case of pregnancy, the woman a primapara, in the eighth month of gestation. I discovered that she had albuminuria. I put her upon diuretics, and veratrum viride six drops every three hours, but with no diminution in the amount of albumen. The patient now began to complain of severe pains in the head, with loss of sight, and, fearing convulsions, I bled her, taking twenty-four ounces from the cephalic vein. In less than twenty-four hours labor came on and the woman was delivered of an eight-months' child. She is now in perfect health, her recovery having been uneventful.

DR. E. S. DWIGHT read a paper upon

"Cardiac Diseases as Encountered in Country Practice, with Brief Reports of a Few Interesting Cases."

[See page 614].

No discussion.

DR. H. J. STUBBS read a paper entitled

"Three Cases of Appendicitis Operated on, One with a Peculiar and Fatal Complication."

Owing to the lateness of the hour there was no discussion.

The Society adjourned to meet the second Tuesday in June, 1897, at Rehoboth, Del.

NEWS AND MISCELLANY.

Dr. Oscar H. Allis, will deliver the thirteenth course under the Mütter Lectureship on Surgical Pathology, College of Physicians of Philadelphia. Subject: "Dislocation of the Major Joints."

SYNOPSIS OF COURSE.

Early Views concerning Muscular Resistance in Dislocation and its Results.

History of Reduction of Dislocation by Manipulation.

The Structures usually involved in Dislocation.

The Mechanism of Dislocation—Characteristic Deformity, Causes; Lesions resulting from improper efforts at reduction.

Demonstration of the various Methods of Reduction by Manipulation.

Dislocations demonstrated as far as possible without preliminary Tenotomy of the Capsule.

The lectures will be given in the hall of the Mütter Museum, at 8 p.m., November 18, 20, 24, 27, 30, and December 4, 7, 8, 14, 16. The medical profession and students of medicine are invited.

Election of a Resident Physician to the Philadelphia Orthopædic Hospital and Infirmary for Nervous Diseases, N. W. corner Seventeenth and Summer Streets, Philadelphia, for the term of service, January 1, 1897, to January 1, 1898, will be held in December. Applicants for the vacancy will communicate with the secretary of the staff, Dr. Morris J. Lewis, 1316 Locust Street, Philadelphia.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2072. SATURDAY, NOVEMBER 21, 1896. VOL. LXXV—No. 21

ORIGINAL ARTICLES.

THE INSANE DIATHESIS—ILLUSIONS, HALLUCINATIONS AND DELUSIONS.*

W. BROWN IRWIN,† A.M., M.D., WERNERSVILLE, PA.

No description of the general forms of mental disease would be complete without reference to that condition of mentalization called the insane diathesis. To describe it would be difficult, for we find few cases of this condition alike, and its special manifestations are measured only by the differences in human faculties, and are as complex as the usual development of mental faculties can make it.

We find certain human beings characterized throughout life by certain peculiarities, eccentricities, originality in some useless way, oddities of manner, speech or dress, non-conformity to the rules that govern the great body of mankind, these things not amounting to mental disease in any correct sense, and yet being usually, by heredity, closely allied to it, or by evolution ending in it at last. Clouston says "no one has lived long in the world without meeting in the flesh many examples." Some of these examples are strikingly original, a genius in some certain line of work or thought, yet in the ordinary affairs of life wanting in those traits that bring success. Nothing would be further from the truth than to say that all persons of the insane diathesis were geniuses or talented. Most of them are, on the contrary, a nuisance to their friends and useless to the world.

The insane diathesis is not always followed by insanity and those whom the world call peculiar may never meet with an exciting cause that will hurl them into an attack of mania or suicidal melancholia. That they possess a strong tendency toward insanity no one will doubt; yet no matter how strong that tendency may be they *may* live to a ripe old age, and have done much useful work, and enjoy to the end the reputation of an eccentric.

The only guide-board to the proper study of mental disease is a proper classification. To classify the subject properly is very difficult, since we have no absolute basis to begin with,* no

*Read before the Berks County Medical Society, Dec. 12, 1895.

†Superintendent of State Asylum for Chronic Insane.

pathologic condition that we always find in a given class of cases.

Without taking any given form of mental disease let us review some of the characteristics that may be found in almost any case. The views taken by medical men and those held by the public in general regarding insanity are as diversely different as they well can be. The common idea of insanity pictures each patient as violently insane at all times, striking and abusing everyone who comes within reach, or as wildly and desperately suicidal, only seeking an opportunity to leave this earth and its endless round of trouble. If, on the other hand, the patient suffers from epilepsy he is not insane but only has "fits." Everything outside of these three divisions is generally designated by the word "crank."

Another aspect of the case is what may be called the legal, and this especially when relating to criminal cases, is narrow and incorrect. To be insane from this point of view the patient must be absolutely unable to tell the difference between right and wrong. The reason that we find fault with this view and say that it is incorrect is that we know that very many patients, in their most violent moments, know what they are doing and also know that it is wrong, yet are powerless to restrain themselves. When questioned after recovery their answer is "I knew it was wrong but I could not help it."

If a person's sanity is to be tested in court before the ordinary jury and you cannot prove he has delusions, or a very bad family history, you might about as well give up the case. The mind of the ordinary juror will not be impressed with any of the finer points that may be entirely sufficient to professional men. Juries, yes and even some of the judges of our courts, have no doubt in their minds that very many who are now confined in hospitals and asylums are wrongfully deprived of their liberty and should be released. Not until some such calamity as the assassination of the mayor of Chicago, about two years ago arises, does the popular feeling verge toward the other extreme and the demand is made that all cranks shall be locked up. If we could discover some happy medium between these two extremes to which the public so often rush, it would be well.

But medical men and especially those of us who are in insane hospitals take a very different view of insanity and the insane than that held by those who have never seen the inside of such an institution and only draw their information from the highly colored and artistically decorated accounts found in the average newspaper. But leaving the views of the world at large to be what they may, let us look at insanity from our own standpoint, leaving the outside world to ponder over chains, torments, and dungeons, to their hearts' content.

In the majority of cases of insanity we may detect the presence of either *illusions*, *hallucinations* or *delusions*. In some cases these may be very hard to detect and their detection may take a long time and careful watching, yet they will generally be found, while in some few cases they will be found wanting. Because we do not detect them at first must not be taken as proof-positive that they do not exist, for many really very insane people are acute enough to hide their delusions for long periods of time and allow them to escape only by accident.

Delusions are very often looked on as the only conclusive evidence of insanity, and it is true that such evidence is beyond question; still, illusions and hallucinations are very often good indications of morbid mental states.

Illusions. An illusion is a false perception of a real sensorial impression: or, in other words, it is a misinterpretation of a real sense impression. Perception is the distinct consciousness of special sensations originating in one of the senses of sight, hearing, touch, taste, or smell.

In illusions the object that gives rise to the sense impression appears to the patient in very different characters from what it really possesses, and the aberration is by no means confined to any one of the special senses, but may be found in one or more than one at the same time. Perhaps the more frequent examples are found arising from the senses of hearing and sight.

By referring to the definition you will remember that an illusion was a *false perception*, hence, in order to the occur-

rence of an illusion, a real impression must be produced on the brain through some of the nerves of especial sense, but the impression appears in very different characters from those the object presents to the healthy brain. The nerves of sensation do their part faithfully and transmit the impression, but the brain being diseased it misinterprets the message. In most cases the impression comes from without and is carried to the brain by the nerves of sensation, yet, it may arise from one of the internal organs. For this reason we say that illusions are objective to the brain.

I, at one time, had a patient who, when lying in bed could see the ventilator in his room and firmly persisted that it was the picture of his father, and at the same time was much surprised that I could not see the resemblance. This is an example of an illusion of the sense of sight and, as in all others, we have a real sense impression, but a false perception.

Take for a further example a patient suffering from dyspepsia, who imagines he has a snake in his stomach, and you have an example of an illusion of wholly internal origin. A patient hearing voices commanding him to do or say certain things, where a rational being only hears the sound of the wind, is an example of an illusion of the sense of hearing. Examples of this kind might be multiplied indefinitely, but these few will suffice to illustrate my meaning.

The special external stimuli which are always present in illusions, and which act on the terminal organs of the special senses in the usual way, do not excite normal perceptions, as in health, but false perceptions that do not correspond to the external reality. So the ventilator in the wall appears to the patient as the picture of his father, and the noise of the wind is construed as voices of friends or enemies.

But the presence of illusions is by no means proof positive that the patient is insane. If he be able by his own will power and reasoning faculties to discover their falsity and correct them he must be considered sane. Thus if the patient to whom the ventilator appeared as his father's picture, can by his own reasoning power disprove the illusion, he must be considered sane in that respect.

In illusions then, whatever their origin, should the patient's reasoning enable him to discard them as false and unsound, he must be considered sane in relation to them. This condition frequently happens with illusions, but unfortunately seldom with hallucinations. I, at one time, had a patient who told me he saw mice and rats running over the floor. When told that such was impossible he said, "I know it is, but the flies that are really there are rats and mice to me." This is a good example of an illusion corrected and proved false by the reasoning power of the patient himself, and of course does not amount to insanity.

As in this case we may occasionally find a patient who can correct one or more illusions and leave one out of which they cannot be persuaded by any amount of argument. The slight-of-hand performer and the ventriloquist calls his deceptions illusions, but such is not the case, for if our eyes and ears were educated sufficiently to follow the rapidity of motion and sound on which his deceptions depend, they would not deceive us at all. It has been related over and over again that thirsty travelers in the desert have experienced illusions of cataracts and the sound of rushing streams, when by thirst they have been so reduced as to be unable to correct, by their impressions of former experiences, what they see or hear, and they imagine that whatever reaches their sight or hearing must be the long hoped for relief of which they stand so much in need. It has been said that phantom ships have appeared to famished and exhausted sailors, and this has been poetized by Coleridge in his "Rhyme of the Ancient Mariner."

Whatever you may choose to call this state, it is a loss of the faculty of comparison, temporary perhaps, but nevertheless a loss, and in consequence the individual cannot be considered for the time being as of sound mind.

The form of illusion that attracts our attention most and is really very common is that of the sense of taste, which leads to the fear of poisoning and the refusal of food. Very many of the cases that require artificial feeding belong to this class, and, as you can well suppose, such delusions entail a great

deal of trouble and very materially detract from the patient's chances of recovery.

HALLUCINATIONS.—Hallucinations are false preceptions without any material basis. They are entirely new creations due to an abnormal condition of the brain itself. They arise when no impression has been produced on any of the nerves of sensation, and are equally independent of visceral sensations.

You will remember that when speaking of illusions I said that a *real* impression was necessary to their production, but such is not the case with hallucinations. They may be said to be *subjective* to the brain or baseless creations of the fancy. Like illusions, they may be of one or more than one of the senses, but are perhaps more frequent in those of hearing and sight.

Some authors have said that hallucinations of hearing are always a bad sign in insanity, and much worse than those of sight, and give as their reason that the former occur more frequently in chronic, while the latter are more common in acute cases. I see no reason to discredit this statement and think it will be found to be correct in the majority of cases that come under our observation.

As an example of this state of mentalization we might cite all those cases who hear voices or spirits where none exist and carry on conversation with imaginary friends or enemies. Very many of the patients who are constantly talking apparently to themselves are no doubt holding conversation with some imaginary friend and when questioned will answer evasively or not at all.

Another fact regarding hallucinations of hearing that is worthy of notice is that they are more common at night than during the day. We might expect that those patients who have "diffused hallucinations," or those who fluctuate from hour to hour, would be classed among the incurable ones, but the exact opposite is the case. Those are the most obstinate and unfavorable whose hallucinatiens are characterized by fixedness and constancy. One notable exception to this is in what is called "correlative hallucinations" of several senses, which when once firmly established are incurable because they confirm and support one another. Fortunately these cases are rare, yet we occasionally find them, and when found we only look at them as bearing one more stamp of incurability.

As I said before, hallucinations of hearing occur more frequently in chronic than in acute cases, and are more formidable. They are difficult, or impossible, to eradicate, and when they exist, render him who is afflicted the most dangerous of patients. Such patients eat, drink, walk, and act, according to the commands they hear, and if compelled to act contrary to them, they tell us they will suffer for such disobedience. They obey the voices implicitly, and often commit the most horrible crimes, never for a moment considering themselves as guilty or responsible.

What can be done with the patient who firmly believes he is commanded by God to take the life of his child and acts accordingly?

In chronic cases, or in those in which the insanity has revealed itself gradually and with few acute symptoms, hallucinations of hearing, form about two-thirds of all the cases we meet with. When a patient of this class tells us he or she hears "voices," not mere sounds, we expect an unfavorable case, our prognosis is gloomy, and our caution is that such a one requires close watching.

Illusions and hallucinations are often so closely linked together that they can be with difficulty separated. The only point of distinction is that in illusions there is a real presence justifiying the false perception, while in hallucinations there is no such presence. The anatomy and physiology of these two classes of perceptions are in the main identical and may be treated together.

Take an illusion for an example; the image of the ventilator is impressed on the patient's nerves of sight and carried to the brain, but the brain being diseased, the image is presented to the patient's consciousness as the picture of his father. In this case the eye may be, and doubtless is, in perfect order, yet the brain image and the optical image are radically different.

Sensations arising in the brain are referred to the ends of the nerves, having their origin in that particular portion. In hallucinations of

hearing, the portion of the brain which presides over that function being diseased, the sensation is referred to the nerves in the ear, and the patient hears voices in the quiet of the night time commanding him to do or say certain things. Hallucinations of this kind would be just as common if the patient was deaf, blind, or wanting in any of the common senses.

With a little reflection you will notice it would be impossible for illusions to exist under the above conditions, however frequently it may occur with hallucinations, for with the former an external impression is necessary.

Causes. Inequalities in cerebral circulation, or changes in the quality of the blood, toxic substances as opium, alcohol, and many other agents; general anæmia, or whatever increases the irritability of the nerve centers; states of exhaustion from fevers, hemorrhage, or starvation, are all competent causes of illusion and hallucination. They may also arise from powerful emotion or from concentration of thought upon one subject.

Most all of us can recall cases of this kind where, by anxious parents, the least noise is construed into the cry of a sick child, or by the eager watcher into the approaching footsteps of the long expected one. These are examples of illusions but cannot be called insane ones, for the people experiencing them are able to correct the false perception of the senses and separate the true from the wholly imaginary.

Delusions. An insane delusion is a false belief; the patient accepts his false perceptions as facts and no amount of reasoning can persuade him that his perceptions are false. Delusions have been ranked as the most important legal evidence of insanity, perhaps for the reason that they are better understood by court and jury. Every eroneous conclusion must not be called a delusion, for errors in judgment arise from imperfect knowledge and bad logic, and the premises may be imperfect though not false; the reasoning may be bad, but that does not imply disease, whereas, in delusions the premises are false though there may be no fault in the logic.

Numerous examples will be found where patients holding a faulty belief cannot be reasoned out of it by any amount of argument. I need hardly say that the patient, who, on his arrival, confidently informs you that he is George Washington or Napoleon; or one, who, from the lower walks of life, yet wishes to present you with a hat full of diamonds; or one who insists she is the Lord Almighty; or one who says he is making angels, are each and all suffering from delusions. That the patient is delusional who constantly complains that her brain, liver, and stomach, are being cut to pieces by a man who has been dead for years, goes without saying.

Neither is it necessary that the delusions shall be expressed in words, for the actions of a patient often stamp them as delusional when they never reveal them by words. In this particular, delusions of grandeur are more marked than any other.

The melancholy patient who has never been heard to utter a word, is governed by his or her delusions; and in one case I remember the patient never spoke of them except when under the influence of chloroform for the reduction of a dislocated shoulder, produced by an unsuccessful attempt at suicide.

The peculiarities of manner which spring from overbearing self-conceit are the most striking and constant. The lunatic who has a delusion respecting his own mighty power and ability as a fighter will take the opportunity to show his powers, and much of the violence among the insane arises from this very common delusion.

The origin of delusions is very similar to that of illusions and hallucinations and may be treated in two classes; those arising *in the brain itself* and those *external to it.*

Among those arising in the brain itself may be enumerated disturbances of cerebral circulation, the use of poisonous substances as alcohol and opium, and from organic disease of the brain itself. Among the external ones are general irritation of the peripheral nervous system, local disease of the internal organs, and diseases of the organs and special sense.

Illusions and hallucinations are perhaps the most patent cause of delusions among the insane, for it is more difficult

for those experiencing them, than for persons in health, to discredit the evidence of their senses.

Delusions might be divided again, according to their nature, into *depressive* and *expansive*, *temporary* and *permanent*, *passive with a tendency to action*, and *active with a tendency to violence*. Each of these and many others might be treated separately.

Before going further let us view the definitions given above.

1. An *illusion* is a false perception of a real sensorial impression.

2. An *hallucination* is a false perception without any material basis.

3. A *delusion* is a false belief; the patient accepts his false perceptions as facts.

You might ask how are we to know that these peculiar notions are really delusions, when we remember that conversation and conduct might be perfectly proper and natural in one person, while in another, differently constituted, would indicate insanity. In determining the mental condition of an individual he must not be judged by any arbitrary standard of sanity or insanity, nor compared with those unquestionably sane or insane. He can properly be compared only with himself.

"When a person without any adequate cause, adopts notions he once regarded as absurd, or indulges in conduct opposed to all his former habits and principles, or changes completely his ordinary temper, manners and disposition—the man of practical sense indulging in speculative theories and projects; the miser becoming a spendthrift and the spendthrift becoming a miser; the staid, quiet, unobtrusive citizen becoming noisy, restless and boisterous; the gay and joyous becoming dull and disconsolate even to the verge of despair; the careful, cautious man of business plunging into hazardous schemes of speculation; the discrete and pious becoming shamefully reckless and profligate—no stronger proof of insanity can be had."

And yet, not one of these traits, in and by itself alone, could be regarded as conclusive evidence of insanity. In accordance with this fact the principle has been laid down, with the highest legal and medical authority, that it is the prolonged departure, without any adequate cause, from states of feeling and modes of thinking usual to the individual, when in health, which is the essential feature of insanity.

BIBLIOGRAPHY.

Clouston T. S., Mental Diseases.
Spitzka E. C., Manual of Insanity.
Esquirol E., Mental Maladies.
Ray I., Contributions to Mental Pathology.
Combe Andrew, Observations on Mental Derangement.
Savage George H., Insanity and Allied Neuroses.
Reference Hand-Book of Medical Sciences.

THE POND WILL CASE.—A MEDICO LEGAL STUDY.

T. D. CROTHERS, M.D.,* HARTFORD, CT.

The late C. M. Pond, a prominent business man, left the city of Hartford, Ct., a large tract of land for park purposes, the value of which was over a hundred thousand dollars. The will was contested on the ground of incompetency and mental weakness from the excessive use of alcohol, morphine and chloral. Austin Flint, M.D., of New York, Allen McLane Hamilton, M.D., of New York, J. B. Mattison, M.D., of Brooklyn, N. Y., Francis Bacon, M.D., of New Haven, Ct., were called as experts on the opposing sides. The case lasted five weeks and caused intense interest, and resulted in a verdict against the will. This was followed by an appeal and a new trial was ordered, which will take during the coming winter. The following review of the case will be of interest:

In the trial a number of very interesting questions were brought out, some

*Superintendent Walnut Lodge Hospital.

of which appear to be worthy of some detailed study. As in contested cases where medical men are grouped to favor opposing sides, the scientific facts suffer. Hence the statements of experts on the stand under the cross fire of lawyers, are misleading and often sadly misrepresent the intelligence and judgment of such medical men.

The facts accepted by both sides were, that for at least ten or fifteen years before Pond's death he had used spirits and morphine to excess. This had caused him to withdraw from active business, and there were marked changes in his conduct and character.

The question was, had his use of spirits and morphine been of such nature as to make him practically insane. This must be answered in part by a study of the amount used, and its effects on his conduct. In the first case there was no question that the amount of alcohol and morphine used was large and excessive especially at times, but the exact amount and the frequency of its use was in dispute. In the question of the effects of these drugs on the mind and conduct of the man, there was much difference of opinion.

The efforts to settle this, by cumulative testimony, in which the side with the greatest volume of evidence is assumed to be the truth, is a very unscientific way of ascertaining the real facts. The grouping of statements of witness who are ignorant of the facts in question or incompetent by personal interest is always dangerous and misleading.

The medical expert testimony sustained two exactly opposite views based on the same general evidence. One that it was impossible to be sane and rational while using spirits and opium to the extent asserted by the witnesses. The other side affirmed that from this evidence, no degree of insanity or permanent unsoundness of mind could be determined. The real point of dispute was the mental health and capacity of Mr. Pond to write or devise a will at a certain specified time.

In the long contradictory history of his habits and conduct, the opposing counsel sought to gather facts that would make a clear diagnosis of insanity, or to create a doubt of this, and strengthen the supposition that he was mentally unimpaired. It is not my purpose to review this mass of evidence and point out its error and inconsistencies, but rather to examine some facts brought out which are not very clear to the profession. The common error that alcohol is a stimulant giving new power and force to the organism, and a narcotic in large and continuous doses, is a source of much confusion. A drug that will stimulate or narcotise, will rouse the heart or depress it, will create an appetite or diminish it, will build up tissue or tear it down, will check inflammation or increase it, will increase the power of organic resistance to poisons and disease, or diminish this power; in brief, a drug that has exactly opposite effects of the body at different times and in different conditions, is a pure fiction. Alcohol is a paralysant and anesthetic with a distinct chemic and physiologic action on the organism.

Chemically it developes a ptomain, with fruitful soil for its growth and development. Physiologically it absorbs water from the tissue, corrugates and paralyzes nerve centres, cells and nerve fibres. After a certain period in the use of spirits, a peculiar toleration appears. The effects from four ounces of alcohol are not double those of two ounces. Beyond a certain point, the visible effects are not increased, no matter what amount is taken. The cumulative action of alcoholic ptomains may suddenly concentrate and produce stupor, coma or acute pneumonia and death. The fact of being able to take a pint or a quart of spirits daily, without stupor and coma, proves this toleration, and also intense activity of the eliminative organs, the kidneys, skin and lungs, to throw off poisons. The brain is anesthetized; that is, its activities are diminished and reduced to a low level. All impressions from the senses are deranged, capacity to formulate such impressions and adjust them to conditions of the present are equally lowered. No man who uses spirits to excess is able to devise or originate any new line of though or action.

He may invest some previous conception of act or thought, with a delusive glare that to the thoughtless, seems original. No man who uses spirits to

excess can materialize the impressions and influences of others, except at the present time. Later they will fade away and cannot be utilized. No man under the influence of spirits can be made to commit a crime to-morrow, or write a will or sign a paper at the direction of others, unless done at the present time. If it is done, it must be at once when the suggestion is made, and when the idea fills all the present of mentality. The power of retaining a mental conception started in an alcoholic anesthetic brain grows more and more feeble, until it is practically lost. Wills written or acts performed by persons who use large quantities of spirits always show the mental condition of the actor, especially if the act was devised in some defective condition of the present.

If the acts had been conceived at an earlier period when the brain was free from the anesthesia of spirits, and at different times been reconsidered, it would grow to a fixed conviction, that no anesthesia would obliterate. Persons notoriously demented from spirits, have in certain ways manifested great wisdom and good judgment in words and conduct, that was clearly the conceptions of earlier years. This is seen in other relations of life, where a persistent idea may remain dormant for a long time, and survive the changes of disease, and appear as a flash of reason in the night of mental darkness.

The will of Mr. Pond was not the product of his diseased brain, it was not the outgrowth of his delusions or the influences of the surroundings. It was conceived farther back in his history before he began to use alcohol or opium to any extent. It was grown and nurtured not in the toxic states of alcohol and opium, but in the free intervals, in the lucid periods.

One of the effects of opium is to slow down the nerve force or current; this popular expression is intended to express diminished nerve sensibility and power. Profound and general narcotism, chemical sleep that deepens to cessation of nerve power and vitality, partial at first, then complete in death. Physiologically this may be spasm or nerve contraction, either of the centres, or along trunk lines, or at the terminations. No one has ascertained what the physiologic conditions are. As in the study of the effects of alcohol, we only know a few facts of the vast unknown that awaits discovery.

As in alcohol, the use of opium soon produces a certain toleration. The use of ten grains a day is not followed by double the effects of five grains. The use of large doses of morphia daily is not followed by the physiologic effects commensurate with the size of the dose.

Beyond a certain point of chemical saturation, morphia becomes practically inert. What the physiological and pathological conditions in such cases are is unknown. Yet in these large doses there is a great effort manifest by the eliminating organs of the skin, kidneys and respiration to throw off the poison. If the morphia taker uses alcohol, the toleration increases, and an unknown neutralizing power appears. A quart or less of spirits and twenty grains of morphia daily makes an unknown chemical compound, whose effects can not be predicted. A double anesthetic and compound of toxins and ptomains are present and the symptoms are equally uncertain.

There is undoubtedly some unknown and conserving power, which limits the injury of these conditions and saves the brain and nervous system from the destruction that would naturally follow. Chemically these enormous doses can be reduced in size from a half to two-thirds without creating any disturbance. Thus where twenty grains of morphia and a pint of spirits are used daily, the spirits can be removed and the morphia reduced below ten grains at once and lower with close attention to elimination, and psychical treatment. The general dementia of these cases does not increase beyond a certain point, and yet a certain instability and paroxysmal explosive condition is present.

In the Pond case the use of both morphia and spirits together in large doses, would not of necessity mean greater dementia, but rather more instability, with explosive acts and conduct. Of course the same incompetence to devise or originate any new plan or thought or act would exist. But the dominance of a previous conviction would not be obliterated, or an accustomed line of action or reasoning be

broken up. His reason and conduct would vary in particulars and at times in certain conditions, but the tendency would be constant to return to the speech and manner of former times. His former convictions of questions relating to his personal life, to his property, to his family, would remain with slight change.

The effects of alcohol and opium fall most heavily on the functional activities of the higher brain. The ethical brain centers that concern character, duty, consciousness of right and wrong, are like the lower sensory centers, anesthetized and enfeebled. The product of these defective brain centers is always faulty and an exact reflex of this condition.

The Pond will gave no evidence of physical degenerations in its provisions. There was no palsy or loss of sense of duty and obligation in its terms. It was clearly the work of a brain not disorganized to the extent, that the use of spirits and opium would indicate. The use of spirits and opium about the time of executing this paper, is not manifest in the will and the inference is unmistakable that this was the thought of an earlier time, a conviction which had come down from some point in the past.

The use of the word alcoholism to describe all cases in which spirits are used to excess is misleading. In reality a number of diseases are noted by the symptom of craving and desire for spirits. The history of a long period of moderate or occasional drinking, then a period of excessive use of spirits or other drugs until death, is the record of progressive degeneration with a systemized acute stage ending in death. Cirrhosis, Bright's disease, the various heart affections and some acute local inflammations, are often associated as causes or effects of this state. The use of alcohol may be the cause or the symptom of these degenerations.

An active business man who drinks in great moderation, becomes an inebriate suddenly after he reaches middle life, and dies a drug and spirit taker, a few years later. What has occurred? Simply some profound degeneration has begun, which is manifest in the craving for relief, for rest, from the psychical pain, or starvation of nerve centers, by the anesthesia of alcohol.

When this narcotism has reached a certain point of saturation, opium or chloral, or other drugs become a grateful change. Pond had used spirits in moderation and was called a temperate man in a general way up to a certain point, then he became an excessive spirit drinker, and alternated it with opium until death. He had cirrhosis and died with some suspicion of sulphonal poisoning. This is a common history with the unknown problem of how far spirits or drugs used were the causes or symptoms of his condition. One general fact helps to clear up the mystery somewhat. Where alcohol is primarily the first and only cause, there is continuous states of unsystemized delirium with progressive dementia. Where alcohol is a symptom of nerve and cell defect, or chemical degenerations, or toxines, the deliriums, dementias, melancholias and nerve explosions are transient and of limited duration. In one case the brain suffers from the continuous progressive palsy, open or masked, yet always becoming feebler. In the other there is intermittency, shortening periods of former health and brain vigor, free intervals in which no change appears superficially, duties and rational conduct are recognized and carried out, as in health. But the brain becomes more automatic and follows more closely currents of previous thought.

Pond probably belonged to this class and his drug taking was symptomatic. While literally insanity in the general meaning of that word, it was the insanity of general progressive degeneration, marked by slow progress and obscure uncertain halts. There is to-day in this city a man who uses large quantities of alcohol, alternated with opium, chloral and cocaine, who is managing large business interests without comment. He is insane and should he commit a crime his mental condition could be clearly established. Yet his conduct in business matters is safe and rational. This is really automatic and along lines of long accustomed act. When he dies the same questions may be raised concerning his will and the answer must turn on the reasonableness and rationality of the will. The sweeping assertions of the experts in the Pond case, that no one in his condition could be of a sound,

disposing mind was only a half truth. The absence of any cross-examination failed to bring out the facts and conditions which would show the other half of the real truth.

The experts on the other side who expressed doubt of the insanity of Pond from the evidence presented and gave the impression that his drug taking and changes of conduct were not sufficient to prove insanity, passed beyond the range of ordinary psychological reasoning. The effort to explain the reasons for such views ended in a jungle of words and mediæval statements that clearly failed to do justice to their well known intelligence. The eagerness and caution to give prominence to the facts which sustained a particular partisan theory was painful to the scientific sense of fairness in questions of this character.

Divested of all theories, opinions and speculations, Pond was clearly of unsound mind and insane. His execution of the will and the character of it was rational and sane. It contained no evidence of unsoundness and was a natural disposition of property, by the average common sense ability of sane men. That this act should be rational and all other acts and conduct be irrational is open to various explanations and theories. That this occurs is beyond all possible question. It is a clinical fact that can be verified. Of course the verdict of the jury was a contradiction of this. This trial again brought into prominence the utter hopelessness of ascertaining facts and their real meaning in the struggle of court room contests.

Two theories of a case are assumed, and every energy is concentrated to establish the one and disprove the other. Only such facts are sought and presented which sustain the assumed theory. Medical men are enlisted to support a theory, they are asked to decide from a mass of statements and evidence which is never the whole truth and always biased and restricted.

Day after day the medical experts listen to widely diverging statements of facts, without means of verification or power of discrimination, and at night are coached by lawyers, who seek to mould and shape their convictions, under the cover of consultation and advice. Finally they become partisans and all unconsciously join in the strife to bring out a certain theory, which at any other time and under different circumstances they would not entertain a moment.

The scientific source of analysis of conduct, of the real meaning of facts and their application to the case in question, is enfeebled and perverted. The medical man on the witness stand as an expert, becomes a half judge and half partisan, and his confused efforts to assume both roles, brings ridicule and contempt to his testimony. This is great injustice and makes it impossible for medical men to make a satisfactory study and clear explanation of the facts in a disputed case.

Nothing could be more farcical literally, than this part of the Pond will case. Five really eminent medical men were pitted against each other to bring out and demonstrate two opposing theories—one that Pond was insane and incompetent to make a will, the other that he was sane and competent to devise his property. Each set of witnesses became partisans more or less unconsciously, dropping judicial, scientific independence of thought and study and following the legal methods of assuming a certain theory true, and accumulating all possible evidence to prove and sustain it.

In the public mind the idea is prominent that medical men of all degrees of eminence are purchasable, to the extent of buying favorable opinions on any side of disputed facts of science. This is untrue. If the five medical experts in the Pond case had been called as a commission to determine the facts, there would have been an unanimous agreement. Separate them and range them in the legal formulaes and methods of securing facts, and they would differ. Not from motive or error of judgment, but from the faults of the system of procuring facts and judging of their meanings. A shrewd lawyer can group evidence in such a way as to give support to the most absurd theories, and the medical witness can be so restricted in his testimony in the court room, that he can be made to support it. Fortunately there has already begun a revolution in this. In several states medical

commissions have been called to decide and give written opinions and the reasons for them, outside of the battling of the court room.

The most important lesson in my opinion in the Pond will case to us as physicians is, first, to keep full notes of every case that is unusual, not so much of the exact drugs we give, as the opinions and impressions we receive of the persons and their conditions at the time. Such notes may form invaluable data for the future. Second, when on the witness stand, refuse to answer any questions which concern facts that we are not thoroughly familiar with, and give no opinions that we cannot support freely and fully. Never lose sight of the fact that the contest of the court is a fight of lawyers to win—that truth and justice is only secondary. Never become partisan in such battles, or lend our influence along lines of doubtful and diputed facts.

A GENERAL CONSIDERATION OF PARASITISM, WITH SPECIAL REFERENCE TO THE TAPE-WORM.*

JAMES W. KEISER, M.D., READING, PA.

Many and mysterious are the numerous processes of development at work in the evolution of the different forms of life. One of the great forces in this development is the never ending conflict between the various forms of life. Every organism has many enemies working toward its destruction, either directly or indirectly, and its survival and development will largely depend upon its ability to escape them, either by its inherent powers of resistance or by the modification of its structure so as to better circumvent its foes. One of the greatest of these evolutionary forces is the ceaseless warfare of parasites upon nearly every form of life.

Parasitism is very common in the animal and vegetable world, and all the purposes for which it is intended in the economy of nature are largely cloaked in our want of knowledge, but we do know that in many instances it profoundly modifies the animal and vegetable functions and structures, and frequently plays an important role in the maintenance of life. Scientists hold that the most remarkable integumentary specialization found in the animal kingdom are really modifications of structure caused by parasites; that these acquired adaptations are intended to resist their invasion and that they are able to successfully defeat the never ceasing attack of larval parasites, eagerly struggling to gain an entrance or footing anywhere. The scales of fishes, the shells of crabs and lobsters are instances of such modifications. The peculiar shape of the star fish is attributed to modifications made to escape the invasion of parasites.

The most curious instances of parasitism are those numerous instances where low forms of animal and vegetable life have formed a permanent union and linked their fortunes together, to the mutual advantages that such a union gives. The radiolaria, an order of the sub-class of the protozoa, presents numerous cases of such a union, or consortism as it is generally called. To the biologist the union of these elementary forms of animal and vegetable life make an ideal condition of living. The vegetable cell obtains from its associate the carbon and nitrogenous waste, and, as its consort is sufficiently transparent, all the necessary light that it requires. The benefit to the animal cell, is that its waste products are consumed while it is supplied with oxygen and starch, and it can also digest the vegetable cells after their death.

All fungi are either parasitic or saprophytic, and the only difference of the latter with the former is that it acts upon decaying substances and is the cause of putrefactive changes.

*Read bofore the Reading Medical Association, July 29, 1896.

The study of parasitism led to the first promulgation of the germ theory of diseases and also the theory and principles governing modern antisepsis. All pathologic bacteria are parasitic in their nature, and are the direct causation of many diseases, such as tuberculosis, cholera, the fevers, the exanthemata, and many skin diseases.

These illustrations show what a potential influence parasites have in the plant and animal economy, but the features which most interest the physician are those destructive influences upon human life as now constituted. The contagious and infectious diseases are not classed as parasitic diseases, although they are as much so as scabies, trichiniasis or tinea sycosis.

Parasites are so common that their number and even species outnumber the non-parasitic forms of life. The majority derive their main support from the host, but many are free to wander from animal to animal. The larger number are free in their youth, some become so in their maturity, and in others freedom is a permanent or a life habit.

The theory of their spontaneous generation is no longer tenable. Animals frequently in their food and drink swallow other animals, and if the environment is adapted they could seasily develop into parasites. Again animals which would seek to deposit their larva in other animals, finding the environment congenial and supplies of food at hand, might remain. Frequently these low forms of life seek the host and use him as a maternity asylum. Once a lodging gained, some of them by variation adapt themselves to the new surroundings, and in after generations the intimacy becomes greater and more permanent. In the majority of cases parasites gain an entrance by food and drink. Eggs are frequently transferred to animals by actual contact. The spread of parasites is very much similar to that of the seed of the vegetable world, and wind and water and also passing animals facilitate the spread of the ova. These eggs are well protected, generally by a tough thickened shell, so that they can resist prolonged draught, burial and changes in climate; and yet they frequently retain their vitality for a long time, all that they require to be quickened into life being a favorable soil.

Laukart pointed out that a tape worm has an average life-time of two years, and produces in that time 1500 proglottides, a perfect sexual segment of a taenia, each one containing about 75,000 ova. As tape worms are not increasing, the changes of one of these eggs to reach maturity is only one out of 85,000,000.

There are eight varieties of tape worms affecting man and they all belong to the entozoa class. Of these the most important are the taenia solium or pork tape worm, and the taenia medicanellata or beef tape worm, and perhaps a third, the taenia tanella or mutton tape worm. The pork tape worm is popularly considered as the kind that is almost exclusively found in this country, but of a number of specimens examined by the late Prof. Leidy every one was of the beef. I think we must admit that beef is much more largely consumed than pork in this country, especially in the east, and, therefore, we should expect, which is probably the case, to find the taenia medicanellata much more frequently than the taenia solium.

The life history of the tape worm is peculiar. It can only become sexually perfect in the intestinal tract. A taenia ten feet long has about 800 segments, and at about 450 segments from the head they become sexually perfect. These segments or proglottides are examples of true hermaphrodites, and the segments as cast off and become voided, become disintegrated and thus the ova are liberated. These ova are about $\frac{1}{170}$ of an inch in size and have a hard calcareous coating, which enables them to resist moisture, the digestive fluids, also moderately strong acids and alkalies. Their tenacity of life under all circumstances is remarable and they can retain their vitality for a long time under very unfavorble circumstances. These ova deposited in the earth or grass are scattered everywhere by the wind and water, by insects, etc. The animal that unconsciously eats them, generally the pig or cow (very rarely man) liberates them by crushing their tough coating in chewing them with their food. Such a rupture is essential

to liberate the embryo, the proscolex, which consists of a small contractile vesicle, measuring only $\frac{1}{1\frac{1}{5}\frac{1}{5}}$ of an inch. It is armed with three pairs of spikelets. And with these it is able to burrow through the tissues. It frequently penetrates the blood vessels and is then washed to remote parts of the body. After being deposited in the tissues and encysted it is termed a scolex, and its contents, the embryo proper, a cysticercus, and it is this that gives meat a measly appearance. Meat, thus affected, is not particularly unwholesome, providing it is cooked to such a degree as to destroy all the vitality of the cysticerci. If such meat is eaten and not properly cooked the cysticercus enters the alimentary canal, and is then called the strobilia embryo which develops into mature segments connected together, and at last it has found its permanent resting place where it can reach its maturity.

The head of the tape worm has four orifices or suckers, surrounded by papillae or hooklets. The beef tape worm has the orifices larger, but the hooklets are very much smaller than in that of the pork. On account of the smaller hooklets it is easier to dislodge the beef than the pork tape worm. To discriminate the different varieties of taenia is not of any practical importance, as the same remedies answer for them all.

Fortunately tape worm is rather a rare affection in civilized man. In Abyssinia where the natives eat only raw meat, it is said that every inhabitant has a tape worm. The only prophylactic measure necessary to prevent tape worm is to eat no meat unless properly cooked. As a matter of safety all measly meat should be destroyed. The cysticercus stage of development is almost unheard of in man, but is possible and cases have been reported of the cysticercus teloe cellulosæ affecting the muscles, heart, liver, choroid plexus and the different tissues of the eye. In these cases the most probable mode of infection would be by the drinking water. If a person should swallow the ova of a tape worm the gastric and intestinal juices would not be sufficient to liberate them, as I have already mentioned, and they would pass harmlessly from the body by way of the intestinal tract. One having a tape worm and manufacturing ova by the thousands, and they being microscopical objects, no doubt, frequently by fingers and other methods, do convey them to his mouth, but no damages result unless crushed by the teeth or liberated by some other mechanical agency.

The symptoms of tape worm have been very much exaggerated. Epilepsy and chorea have been attributed to their presence, but such consequences are exceedingly rare. They can cause vertigo, tinnitis aurium, disturbances of vision, pruritus at nose and anus, weakness, salivation, disordered appetite and digestion, neuralgic and colicky pains about the abdomen, restlessness and disturbed slumber. But these symptoms are incident to many conditions and are not sufficient to base a diagnosis. The one pathognomonic symptom is passing the links of the worm. The discharge of these links is very common and to exclude or confirm their presence the feces should be inspected for several weeks. To make a speedy diagnosis a brisk purgative can be given and then if a worm is present some portions will be passed. Some persons without any reason develop the idea that they have a tape worm and this delusion may become so fixed that it passes the border line of sanity. Before treatment is begun we should be absolutely certain of the correctness of the diagnosis.

I desire to relate a case which I have treated during the past ten days, and think, successfully. The only symptom that the patient had was a variable, and at times, a voracious appetite. Occasionally he passed small flakes of tape worm, as he called them, which at the time caused a feeling of weakness and sometimes amounted almost to prostration. Frequently in walking he involuntarily passed them in his trousers much to his annoyance. These symptoms he had for about two years. I informed him that he probably had a tape worm, but before I would institute treatment he must put some of the flakes in a bottle, so that I could examine them and pronounce a positive opinion. My treatment was as follows:

I gave rigid orders that the next day he was to abstain from all solid food.

He could have as much milk, tea or coffee as he desired. I ordered three drams of the oleoresin of male fern, and at bedtime he was instructed to take one teaspoonful well diluted with milk. The following morning one half tea spoonful every hour until it was all taken, then to be followed with four grains of calomel. He took the tea spoonful as directed and at about three o'clock a.m., had a slight passage, one hour later he had a large movement and passed the worm that I have with me to-night for your inspection. He took all the medicine that I prescribed and I am sure the entire worm was expelled. In the specimen the long, slender neck shows, and at about the junction of the head and neck it is torn off, so the head is absent and the specimen is not quite perfect. But after the worm it also was expelled, he took twice as much of the tæniafuge, followed by four grains of calomel. I feel morally certain that it has been entirely voided, and the cure is permanent. Flint says that, as a rule, if nearly all of the tape worm from a point high up be expelled, it will be killed and a cure made. The flowers of Koussa, the bark of pomegranate root, the seed of the pumpkin, chloroform, and the oil of turpentine can all be successfully used to destroy this parasite.

At the discussion on tape worms in this city, before the State Medical Society, Dr. Tyson, of Philadelphia, said that cases of tape worm are rare, and at the clinic of the University of Pennsylvania, only one case turns up with clock-like regularity every year. If so infrequent in hospital and dispensary practice, it must be much more so in private practice. Dr. Tyson also admitted that quacks were more successful in treating tape worms than the regular profession. If this opinion is correct, it must be due to the neglect of diet and timidity in dosing with drugs with which, in the very nature of things, we can have little experience. I determined the dose to give to my patient, who was a big, robust fellow, by first ascertaining the minimum quantity that has proved fatal which was six drams, and so I ordered half this quantity to be given in divided doses, which is somewhat more than is generally recommended. If my subject had been a delicate person I would have ordered less.

I know of a case of tape worm in a gentleman who cured himself without a doctor by simply filling his pockets with pumpkin seed and chewing them *ad libitum*. As these seeds are sweet and palatable, and if this simple method of cure would be found reliable, without any restriction of diet and employment of purgatives, it would be the ideal treatment in this troublesome affection.

THE USE OF NITRATE OF SILVER IN THE PHARYNX.¶

LEWIS S. SOMERS, M.D., PHILADELPHIA, PA.

Nitrate of silver has in the past been used in nearly all the affections occuring in the pharnyx, and is to a less extent in use at present. It has been vaunted as a sedative in acute inflammations and as an escharotic in chronic hypertrophies, until one is tempted to ascribe to the drug a sort of occult power especially exercised over the faucial region. The drug when used properly is of much value in certain pharyngeal disorders and occupies a definite place in the list of local remedies applicable to this region.

Nitrate of silver is used as a local remedy in two forms, solution of various degrees of strength and the solid salt, the latter either in the stick or melted on an appropriate applicator. The varied results obtained in the hands of the general practitioner have been due to the indiscriminate use of the drug without reference to it being solid or liquid. It will not be out of place to give a short resume of the local physiological action of the two forms noted, before indicating the various conditions in which it is of value.

The solid stick, the *argenti nitras fusus* of the pharmacopeia, when applied locally to the mucous membrane, acts as an escharotic or caustic to a moderate degree, only superficially devitalizing the tissues, and is especially indicated in superficial ulceration, non-malignant neoplasms too small for operative interference, and cauterization of the wound after removal of a small new growth.

When used in solution, the local effects produced depend upon the amount of salt present. As silver is incompatible with all organic materials and with the larger proportion of drugs used locally, the solutions are best made with water, the drug being soluble in its own weight of water. Glycerin is occasionally used in combination, but never alone as a solvent, on account of its possessing marked affinity for water, causing dryness of the mucous membrane with severe burning pain. The local physiologic action produced by solutions can be better described by noting the different effects produced in the pharynx by weak and strong solutions.

A solution containing from one to forty grains of the salt to an ounce of water, when directly applied to a portion of the pharyngeal mucous membrane, exerts a protective, stimulating and astringent effect, and generally produces a moderate amount of discomfort, although not amounting to a decided pain. It not only possesses these properties, but exercises a peculiar alterative action over local nutrition. It acts as a local antiphlogistic. Strong solutions have the peculiar property in contradistinction to weak solutions of not producing painful sensations. In this connection, over one hundred cases of pharyngeal disease where silver was indicated, were subjected to local applications of a saturated solution of the drug and the result showed a total absence of unpleasant sensation in every case.

This absence of pain is due to its local anesthetic effect, noticeable only in strong solutions. Solutions in contradistinction to the solid form do not devitalize the tissues with which they come in contact. The protective action depends upon the drug coagulating albumin, forming the albuminate, mucinate and chloride of silver, thereby protecting the tissues beneath. Its special value in superficial inflammations to a greater or less extent, depends upon this protective membrane which is formed, covering the inflamed surface. When applied to the tonsils, the membrane formed resembles to a certain extent, that produced by the Klebs-Loeffler bacillus; in these cases the differential diagnosis can readily be made by the history of the previous use of the drug. The constitutional symptoms are as well marked in tonsilitis for which the drug is used, as in diphtheria. This point may seem of very little practical importance, but cases are frequently seen which have recently had an application of silver to the tonsils at the hands of another physician and much anxiety and unnecessary trouble may be prevented by ascertaining the cause producing the grayish-white membrane present in the fauces.

Solutions may be used in the steam atomizer, the strength, however, not exceeding ten grains to the ounce of water and glycerine, equal parts of each. In acute pharyngitis, if the case is seen within the first day of the disease, a strong solution applied with a camel's hair brush or cotton tuft on an applicator to the inflamed mucous membrane will generally abort the attack. Care should be taken to avoid using more of the solution than is absolutely necessary, applying the drug over the affected parts of the pharynx only, for if used too freely its stimulating properties become at once apparent and the inflammatory trouble will be aggravated.

Muirhead recommends daily painting of the fauces in acute pharyngitis, with a solution containing forty grains to the ounce of water. If the disease is not seen and treated at its inception, it is better to wait until the dry stage has passed and use a two to five per cent. solution on the inflamed portion when free secretion becomes established. This treatment is also of value in acute tonsilitis without the presence of pus. Cohen has used local applications of the solid stick of silver in acute tonsilitis with favorable results, but care must be exercised to avoid aiding the disease, and if good results are not obtained within twenty-four hours, other medication becomes advisable. Rarely, an

attack of acute pharyngitis becomes characterized by local minute hemorrhages from the intensely engorged faucial vessels (hemorrhagic pharyngitis). It then becomes necessary, in addition to whatever means we are using, to subdue the inflammation, to control the bleeding points. In these cases, probably, Natier has had the largest experience, and has rapidly overcome the trouble by applying a strong solution of silver to each extravasating or bleeding point.

After frequent repeated attacks of acute pharyngitis a catarrhal condition of the mucosa is very apt to remain and prove more or less resisting to treatment. This condition apparently precedes a chronic glandular sclerosis or hypertrophic condition of the faucial region. Rilliet and Barthez as quoted by Smith, use a powder containing ten grains of silver nitrate to the ounce. This is especially valuable in children as only a small amount is necessary for each application and it is much more easily applied by gentle insufflation than a solution of equal strength. The bulk of the powder is usually composed of starch, but any bland, non-irritating powder may be used. Powders containing silver are seldom used at present for pharyngeal affections, as solutions are much easier of application in the adult, do not produce cough, are more rapid in action and vastly more effective. In general it may be said that powder is indicated in preference to solutions whenever the long continued action of the medication used, is desired.

By far the best results observed in the use of silver in the pharynx, are in the follicular hypertrophy and congestion forming the complex symptom known as granular sore throat or catarrh. We may conveniently divide this form of pharyngitis, as regards treatment, into three classes. (*a*) where there is a diffuse inflammation and thickening of the tissue of not long standing, without noticeable enlargement of the follicles; (*b*) where the follicles are much enlarged and form the characteristic feature of the affection, the blood vessels in this form often being enlarged and tortuous and clearly discernible ramifying over the pharyngeal wall; (*c*) sub-acute and chronic inflammations in which as contrasted with the first two forms, the glands and sub-mucous tissues are much hypertrophied. In this last class silver in any form is harmful and should never be used.

Solutions only are applicable in the conditions mentioned in the first form of the affection, and are then of value when used two or three times a week in gradually increasing strength, beginning applications with about forty grains to the ounce. When the follicles are much enlarged as in the second form, the solid stick or crystals of silver melted to form a bead is applied by first splitting the follicles, and cauterizing their interior, a few only being treated at each sitting. This process is repeated at frequent intervals until the cure is completed. Some authors advise curetting the enlarged glandular tissues and then cauterizing the base, but this method is productive of more or less inflammatory reaction and offers no advantages over the former. If the walls of the capillaries are much thickened they may be cut across with the knife and then obliterated with the solid stick of silver.

Sometimes we observe a form of pharyngitis characterized by collections of dry and decayed secretions in the follicles, occurring most frequently in chronic granular sore throats of long standing. After removing as much of the extraneous matter as possible from the follicles, the best results are obtained by cauterizing the small cavities remaining, with the solid stick of silver shaped to a sharp point. When the tonsils are much hypertrophied and especially if fibrous changes have taken place, the use of silver as an agent for the reduction of the hyperplastic changes, has been superseded by the various methods of operative removal and the electro-cautery. The special field of usefulness for the drug in this affection, is in two forms of chronic changes of the tonsilar tissues; first, where the crypts are filled with necrotic and cheesy masses, the so-called follicular tonsilitis, and secondly, that form characterized by a moderate hyperplastic overgrowth of the tonsilar tissues without much evidence of fibrous tissue formation.

The first form may be brought to a successful termination by removing the contents of the diseased crypts with probe or curette, then cleansing with peroxide of hydrogen and finally thoroughly cauterizing the cavity in the same manner as is done in follicular pharyngitis, or instead of using the stick of silver the crystals may be melted into a bead on an appropriate applicator and cauterization effected. This treatment should be repeated three or four times a week and may safely be done at frequent intervals as there occurs no reactive inflammation as is produced when the actual cautery is used. When there is moderate enlargement of the tonsils without special involvement of the crypts, a saturated solution of the drug applied at frequent intervals over the entire surface of the hypertrophy will rapidly reduce it in size without the production of any unpleasant symptoms. Holmes, in this form of tonsilitis, uses the bead of silver pressed into the tonsilar crypts, thereby setting up an inflammatory reaction of their walls with resulting adhesion and general cicatricial contraction.

During the course of infectious diseases such as measles or scarlet fever, the pharnyx becomes involved in quite a large number of cases; care must always be exercised in the treatment of acute pharyngitis occurring under these conditions and frequently spraying the inflammed surfaces with a mild antiseptic solution is more advisable than other more energetic applications. Silver is never used in these cases when the inflammation is acute as other measures have proven of more avail, but is indicated when bad ulceration occurs as a complication of the infectious process and then seems to hold the local destructive process in check.

In lupus of the pharyngeal wall Asch has used a saturated solution with much benefit, but unless the area involved by the disease is small and circumscribed, silver will be of little value, more powerful agents being indicated. In the syphilitic patches involving the faucial region either the solution or solid stick exercises in conjunction with constitutional treatment, a decided influence towards the rapid healing of the specific ulcer. Care must be exercised, however, in using the solid drug not to produce too deep an eschar.

Erysipelas involving the pharyngeal mucosa may be aborted or cut short by applying a solution of silver as recommended by Cohen. The method consists in painting the effected area with a sixty grain solution so as to produce a margin of unaffected structure. The drug is used in pharyngeal neuroses only when indicated for any condition present acting as a local cause for the production of the nervous phenomena. A weak solution of silver is of value in dysphagia when due to some local pharyngeal disease not malignant in character. The streugth of the solution should be from five to ten grains to the ounce of water.

Ex-Medicos.

About fourteen per cent. of the entire number of medical graduates drop out of the profession within a few years. Some few never practice; others are tempted by better inducements into other fields of work; some are driven to suicide on account of failure; others succumb to contagious diseases; still more lose their health on account of exposure to inclement weather and accident, or on account of mental anxiety. Among those we must include those who become insane or who contract the alcohol, morphine, or cocaine habit. Worse than all else, a few are driven into quackery. Any one may make a mistake in the choice of life-work, and it is no discredit to abandon practice. There are plenty of honorable employments for unsuccessful physicians: there are schools to teach, merchandise to sell, drugs to dispense, news to gather; at any rate there is coal to shovel and wood to saw. It doubtless seems a pity to sacrifice the investment of three or four years' hard work in the study of medicine, but it is cheaper than to sacrifice honor and prostitute medical science to quackery.—A. L. Benedict, in *Lippincott's.*

Isn't it a Wart?

Dr. X—— begins a communication to a contemporary: "I have on hand an enlarged prostate."—*Medical Record.*

CURRENT LITERATURE CONDENSED.

A Comparison of the Known Advantages and Disadvantages of Vaginal vs. Abdominal Hysterectomy.[1]

The recent advances in pelvic surgery through removal of the uterus and its appendages by the vagina, have been favorably commented upon at the proceedings of various medical societies, even by conservative surgeons. It is evident, from the success obtained by several French surgeons, and results equally brilliant by American operators, that vaginal hysterectomy, through a perfected technic, has materially advanced in position within the past year or two. Unlike abdominal hysterectomy, however, its field of operation, at least at the present time, is somewhat circumscribed.

While one cannot rely entirely upon statistics appertaining to either medicine or surgery, it may be said that the percentage of deaths resulting from vaginal hysterectomy compares favorably with that of extirpation by the abdomen.

The advantage of doing a total extirpation by the latter method is that, by means of the Trendelenburg position, the eye plays a part equal to that of the finger, in that the field of operation is usually in full view, the ability to deal with every phase of supra-pubic complication being thus readily admitted.

As regards the rapidity of operation by the vagina, with the use of clamps, as compared with ligatures when operating through the abdomen, one must take into due consideration the sloughing process with accompanying discomfort and pain in the use of and removal of the forceps, as a natural result of the after treatment in vaginal hysterectomy.

In myomata or myofibromata, of not unusual dimensions, and in septic uteri with accompanying pelvic suppurative conditions, total extirpation by the vagina answers a ready method. In the perfected technic, as resorted to by Ségond, the entire operation is in the field of vision, the eye in these instances also playing a part equal to that of the finger.

Tumors of whatever size, if complicated by extensive adhesions, can best be removed through the abdomen. The same may be said of cancer of the uterus, because of its tendency to invade surrounding tissues, this necessitating complete removal of the parts affected, and even beyond if possible.

The absence of hernia, and perhaps somewhat diminished shock, in that the intestines are usually but slightly disturbed, are favorable to vaginal extirpation, while possible injury to the ureters and bladder must be equally taken into consideration.

Finally, as to the question of drainage, more particularly in suppurative conditions, it is undoubtedly more perfect through the apparently natural channel, the vagina.

[1] Edward Nicholas Liell, M.D., lecturer on Gynecology New York Polyclinic.

Treatment of Retained Menses.[2]

If the average student were asked the proper treatment for retention of the menses, he would probably answer that the fluid should be aspirated with every precaution through an orifice made *ad hoc* through the hymen or the structures representing the same. This answer is correct in respect of cases of hematocolpus, properly so-called, viz., cases in which the retention is due to imperforate hymen or to atresia of the vagina low down, but it is very inadequate in the not uncommon instances of complete absence of a vagina, either from congenital deficiency or as the result of acquired atresia high up. In this case the uterus itself is necessarily distended, and there is a real danger of the dilatation extending to and involving the Fallopian tubes, constituting hematosalpinx. Several important facts call for consideration in this class of cases.

In the first place, access to the os uteri has to be obtained through a passage artificially dissected out between the bladder in front and the rectum behind. Now this passage, when destitute of a mucous lining, is practically

[2] *Medical Press and Circular.*

impossible to maintain patent, and reaccumulation of the fluid, with recurrence of the symptoms, sooner or later follows. In the second place, the treatment of cases of hematometra associated with hematosalpinx is somewhat dangerous, owing to the risk of regurgitation of the fluid contained in the dilated tubes, or of their rupture. In view of these two conditions, it has been urged that the proper treatment is really to perform abdominal section, in order to remove the uterine appendages with the object of determining cessation of menstruation. Obviously, no such grave intervention would be justified except in the presence of a formal diagnosis of hematometra, plus total absence of the vagina. When the defect is congenital it not infrequently happens that the uterus and ovaries share in the arrest of development, in which case no treatment may be called for. Gynecologists may consider themselves dispensed from the obligation of setting to work to create a vagina simply because the patient does not happen to be provided therewith, for unless by ingenious plastic devices a mucous lining can be secured their labor will be in vain, the aperture invariably undergoing gradual closure owing to progressive cicatricial contraction. Such cases are not always easy to diagnose, and when diagnosed they often present considerable difficulties in the way of successful treatment. Fortunately, they are tolerable rare, though most gynecological surgeons of much experience have met with a certain number.

The Prevention of Tuberculosis.

The authorities of the city of Hamburg have issued a circular for general distribution, containing the following facts and recommendations intended to prevent the dissemination of tuberculosis:

More persons die annually from tuberculosis than from any other disease. In Hamburg the number of deaths yearly from this cause exceeds 1500. No other disease interferes to the same degree with the activity and welfare of a community. The lungs are the most common seat of the disease, but the glands, bones, joints and other organs also suffer and the lungs may be affected secondarily. The disease is especially disseminated in two ways—through the sputum of the victims of pulmonary tuberculosis and through the milk of tuberculous cows. As a rule, months, sometimes years, elapse between the lodgement of the germs and the manifestation of their activity. Transmission through the expectoration may take place directly through cough. More commonly, however, the sputum dries upon walls, handkerchiefs, clothing, and utensils, and is reduced to powder and inhaled by healthy persons. Children are especially liable to infection, not only because the susceptibility is great in early life, but also because they play upon the ground and are likely to introduce their soiled hands and toys into their mouths. The susceptibility is increased at times of bodily disease and in children especially during attacks of measles and whooping-cough. Small wounds of any kind may constitute a portal of entry for the germs of the disease. To prevent transmission through the sputum it is necessary for all persons suffering with cough to hold a hand before the mouth during the act of coughing and to void the expectorated matters into special receptacles. Attendants and others should see that this precaution is rigidly observed. Every tuberculous patient who neglects this rule jeopardizes the health of those about him and especially that of the members of his family. The observance of the rule renders the tuberculous patient free from danger to those about him. Cuspidors should be provided for all rooms in which many persons come together; they *must* be provided for rooms used by tuberculous patients. The cuspidor may contain sawdust, shavings, oakum or water, and the contents should be frequently changed and, if possible, together with the sputum, destroyed by fire. Clothing, linen, eating utensils, and other effects, soiled by tuberculous expectoration should be at once cleaned perfectly, preferably by boiling or other mode of disinfection. The utmost cleanliness, the freest ventilation, and the greatest amount of sunshine should be secured in rooms occupied by tuberculous patients. The formation and distribution of dust should so far as possi-

ble be prevented by the use of water. Rooms long occupied by a tuberculous patient or in which such a patient has died, should be thoroughly disinfected. No house in which a tuberculous patient has lived should be occupied by others before such disinfection has been practised. This will be done at moderate cost by the city authorities, or gratuitously when justified by the circumstances of the case. Tuberculous and healthy persons should not occupy the same bed. Children should be excluded from the rooms used by tuberculous persons. When tuberculous persons are occupied in the preparation of articles of food, or the manufacture of clothing, or when tuberculous and healthy persons associate (as in schools, factories, places of business, etc.) rigid care must be exercised with regard to the sputum and the greatest cleanliness must be observed. Tuberculous women should not suckle children. Tuberculosis in cattle is common in the neighborhood of Hamburg, and often difficult of recognition. As the germs pass over in the milk, all milk used as food should be boiled. The prognosis in cases of tuberculosis is the more favorable the earlier medical treatment is begun.

The Control and Supervision of Public Water Supplies by Sanitary Authorities.[3]

The extent of popular indifference and inattention to questions of public water supply, and the almost complete absence outside the metropolis of power to ensure proper watchful insistence that such supplies shall be adequately guarded from pollution, is most extraordinary.

The Public Health Act enacts that any urban or rural authority may provide their district with a supply of water proper and sufficient for public and private purposes; and though the words "may provide" are permissive and enabling, if the local authority do not avail themselves of this power where water is required and they can procure it, they will be in default, and can be compelled by the Local Government Board to make such provision. The local authority may either contract with any person for a supply, or construct or purchase waterworks, and the local authority shall provide and keep in such waterworks a supply of pure and wholesome water. Such private persons or companies are required to provide and keep in the pipes to be laid down by them a supply of pure and wholesome water sufficient for the domestic use of all the inhabitants within the limits of their area of supply. Within the service area of a legally constituted company a local authority cannot, however, construct waterworks (except for the supply of water for their own use) so long as that company are able and willing to supply water proper and sufficient for all reasonable purposes for which it is required. Any local authority is empowered under such conditions to obtain a justices' order for the permanent or temporary closure or limited use of a public or private pump, well tank, or cistern. It is the duty of every rural sanitary authority from time to time to take such steps as may be necessary to ascertain the condition of the water supply within their district, and if there be reasonable ground for believing that any house therein is without a proper and sufficient supply of wholesome water, the authority, or any of their duly-authorized officers, are empowered to enter the houses in question, *or the premises from which the water supply may be derived*, for the purpose of ascertaining whether such house has such a supply within a reasonable distance.

In the metropolis matters are in a much more satisfactory condition, for we find that the Metropolis Water Act empowered the Board of Trade, after notice in writing to the Company, to inspect and examine the waterworks of the company, to inquire into and concerning the grounds of such complaints, and who shall, under very heavy penalty of neglect or refusal, be afforded by the company and their officers all reasonable facilities for such inspection, examination and inquiry.

The office of water engineer has also been created such official to be a competent and impartial person from time to time appointed by and removable by the Board of Trade, who shall from time to time, in such a manner as the Board of Trade direct, examine the water

[3] C. Porter, M.D., Ireland; D. P. H., Camb.; M. R. C. S., England.

supplied by any company. Major-General de Courcy Scott, R.E., the present incumbent of the office, informed the Royal Commission on Metropolitan Water Supply that his statutory duties involve periodical inspection of the metropolitan filtering works, attached reservoirs and water supply, to ascertain whether or not the water companies have complied with the provisions of the Metropolis Water Act of 1852, which requires that every company shall effectually filter all water supplied within the metropolis for domestic purposes before the same shall pass into the pipes for distribution. General Scott adds that the definition "efficient filtration" is understood to mean, under the Act of 1852, that "the water in its physicial appearance shall be clear, bright and free from suspended matter," and that his instructions and procedure are to collect samples of effluent as it issues from the filters and to examine each in a two-foot tube as these qualities. Such instructions and such a test appear to be crude in the extreme, for at the sewage works of a large city I have recently seen an unsatisfactory sewage effluent that would unquestionably have admirably complied with all these requirements, and almost every one knows that during the cholera outbreak of 1854, the death-dealing water of the celebrated Broad-street pump was bright clear and sparkling. Such puerile regulations could never have had the sanction of the State's responsible medical advisers, and presumably represent the humorous idea of potability of the Board of Trade layman or the prehistoric reminiscences and practice of some fossilised water engine, of which latter curiosity it is not yet, perhaps, impossible to find specimens.

General Scott stated that he possessed no compulsory powers of entry and inspection except to the filters and for seeing samples of water. In addition to the supervision exercised by the water examiner, Dr. E. Frankland, as is well known, is employed by the Local Government Board to examine chemically and in regard to bacteria purity the metropolitan waters as delivered; and at the request of the associated companies these examinations have been extended to the raw river waters *at the intakes* and to the effluent water as it *issues from the various filters.*

At present, except in regard to the closure of polluted wells, pumps, etc., and the limited and questionable powers possessed by rural authorities under the Public Health Water Act, 1878, there is outside the metropolis no legal basis whatever for the obvious moral right of sanitary bodies to satisfy themselves that the sources and methods of purification of the water supplied to their districts by commercial companies is such as to leave no room for the entry to the distributing mains of matters of noxious nature. This power should by all means be also in the hands of sanitary authorities where the district is at the mercy of private companies, and there is consequently "the temptation to choose between dividends and disease," as Sir A. K. Rollit, M.P., has pithily said in regard to the notorious shortcomings of the East London Water Company.

In the discussion which followed Dr. Porter's paper, Sir Douglas Galton expressed himself as not quite so strongly in favor of much additional power, because he thought medical officers at present had power to ascertain whether water was pure. There was no doubt it was of great importance to give to authorities outside London power similar to that which was given in London, of appointing a water examiner or analyist in each county, and then for the medical officer of health for the county, town or district to be able to put in force those powers which the water examiner in London could exercise. He would not, however, advocate placing them under the Local Government Board or the Board of Trade. Dr. Squance (Sunderland) said there was no doubt it would be infinitely preferable to have water supplies controlled by the sanitary authorities, but it was difficult to educate local authorities up to this belief.

Disease and Recovery as Related to Therapeutics.[4]

If we hope ever to understand the normal operations of the human body and mind, or their perversions, or the

[4] S. Solis-Cohen, M.D. Annual address before the Medical and Chirurgical Faculty of Maryland, Baltimore, 1896.

methods by which their perversions may be prevented or corrected, we must be able to bring them into line with the fundamental facts of general biography and to avail ourselves of all the aids that may be gained from collateral sciences. We must understand, so far and so fast as the progress of general biology and allied sciences renders possible, the nature of the life-substance and of the life-force, the modifications that these undergo under various circumstances, and what are the circumstances that are capable of modifiying them. We must attain to as full a knowledge as possible of the various stages through which man has passed, physically and mentally, mechanically and morally, not alone in the development of the individual, but also in that of the race, for only thus can we understand the forces tending to departure from that which we are pleased to call the normal standing; whether in the direction of reversion to more primitive forms and processes, or in the faint beginnings of the more complex, which in their full fruition shall enable our posterity to solve without difficulty problems that to us appear inexplicable. We must recognize the dependence of man upon his environment, as well as the power of man to modify that environment, and especially must we bear in mind the fact that the evolution of man,—the tendency to progress,—has been toward the development and improvement of his nervous system, while other parts of his physical organism have remained in a condition less perfect than that of some of his brute relatives; that in fact the very condition of his progress has been not alone the diversion of energy from muscular and osseous systems to the nervous system, but also the maintenance of nervous structures in that plastic state, impressionable to the outer world and responsible to the inner workings, which alone permits of further modification and the assumption of new powers. Thus, in the course of nervous modification, before adjustments to new conditions have been completed, while the evolutionary process is still, as it were, experimenting, before choosing that which will best tend toward the end in view, and while the general placticity and impressionableness, permitting of the development of variations from which natural selection may choose, remain, we must expect, a vast increase in the number of nervous diseases; but we must also learn to distinguish among them, so that we may not misinterpret as evidences of maladjustment or degeneration, processes which are manifestation of a new tendency toward readjustment, toward the generation of new powers and new faculties. So distinguishing, we must learn, moreover, to act in harmony with these new developments; for man alone, among the vast number of living creatures, has the power to consciously modify his environment and control in a measure his own evolution. Certain great truths concerning the nature of disease and recovery have been recognized throughout the course of medical history, and have always influenced the best teaching and practice. Disease and recovery may be looked upon as vital processes in which the organism plays an active part; in some instances, one continuous process. Neither morbific nor therapeutic agents endow the organism with new qualities, nor introduce into its operations new powers,—as the one, so the other can act only by modifying that which is habitual or evoking that which is latent. In disease there are presented two classes of phenomena, between which the physician must discriminate; the one morbid, that is tending to the destruction or impairment of the organism; the other salutary, that is tending towards its preservation and restoration to comfort and usefulness. The tendency of the organism to react in a salutory manner is often of itself sufficient to insure complete and perfect recovery, but it may be either deficient or excessive in several respects, especially as to time, degree and extent; furthermore, processes salutory in general may be morbid in respect to particular circumstances. When the processes are essentially morbid or when they become so by excess or deficiency or by circumstances of the individual case, the intervention of art is required, to assist, modify, control or prevent natural processes, to sustain the organism during their evolution, or to avert incidental or sequential dangers or damages. In such intervention, while

we may properly use drugs and must often do so, and while our resources have recently been greatly increased by the utilization of nature's own alexiteria and functional stimulants and regulators, yet we shall learn to place greatest dependence upon those agencies,—air, light, water, heat and cold, food, rest, exercise of function, physical and mental,—which, as the habitual environment of man or his habitual reaction to the environment, have recorded their effects in his line of development, his structure and his faculties, and are still the most potent influences in his preservation and his progress.

DR. HOLMES'S NOVELS.

Many of us must remember the dominant idea of "Elsie Venner," in which the snake-mark is set upon the heroine before her birth, and a pure and noble woman-soul struggles with on intruding serpent-nature to the death. He told me once that he had written this without any basis of known fact, as an exercise of the imagination upon what seemed to him psychico-physical possibilities, and was amazed afterwards to receive letters from two men of character and position, one of them I think a Confederate official, describing similar cases in their families and wondering how he had heard of them.

Whether those two novels are still read or not, they deserve to be. The author was not a professional romancer indeed, but there are treasures of wisdom in them, and abundant human interest. Nor was Dr. Holmes merely the civic functionary, social ornament, and poet of occasion, that some seem to fancy. These were but phases of a variously gifted mind, entwined with a rich and generous nature. Above all, the man was genuine; not merely wit, but humorist; as true a union of aristocrat and democrat as we have seen, or are likely to see again. This must be felt by the thousands who knew him near at hand, and the tens of thousands who knew him somewhat further off, through the medium of his books. He often made us smile, he sometimes made us want to cry. Many things in his verse, and more in his prose, have gone to the general heart. The word that comes from England is surely echoed through America, that we have lost not so much one who posed for our amusement or spoke *ore rotundo* for our instruction as a near friend and an elder brother.—F. M. B., in *Lippincott's.*

Not the Same.

A neat example of the retort admonitive was recently made by a young Colorado mining engineer, whom we will call Morton, principally because that is not at all like his name. Seated in a chair in a Denver barber shop, undergoing a shave at the hands of a favorite barber, who, although an excellent craftsman, sometimes committed the mistake of becoming too familiar in conversation, the talk turned on the case of a man who, being on trial for murder, had been recognized by visitors to the court-room as a young theological student from a Middle State, where he had been the possessor of a spotless reputation and a totally different name. The conversation thereupon drifted to the subject of changed identities.

Morton's barber rubbed the razor reflectively, and said: "Yes, it's surprising how many men change their names after they get out West. By-the-way, Morton, what was *your* name back East?"

"*Mister* Morton," was the quiet reply.—From the "Editor's Drawer," in *Harper's Mayazine.*

Night-work is a much exaggerated evil of the physician's life. In the first few years of city practice there is not a superabundance of either day or night calls, and to one who falls asleep full of apprehensions as to the success of the future, the jingle of the telephone breaks in upon his troubled dreams like sweet music.—A. L. Benedict, in December *Lippincott's.*

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, NOVEMBER 21, 1896.

PUBLISHERS' NOTICE.

Subscriptions to the REPORTER are payable in advance, and the season being at hand when renewals are most frequent, the publishers request each subscriber to examine the address printed upon the wrapper in which the journal is mailed. The date printed with the address is that TO which the subscription is paid. The subscriber will see at a glance the status of his account. Formal acknowledgment is made of every remittance as received, and the date upon the wrapper is revised accordingly. If not properly altered within three weeks, subscribers are requested to notify us of the oversight in order to prevent subsequent mistakes. Delinquent subscribers will learn the date since which their accounts are in arrears.

EDITORIAL.

DIGESTIBLE WATER.

The taunt most frequently leveled at conservative Philadelphia by outside Philistines has been her lack of progressiveness. In some instances the reproach has perhaps been undeserved, but in many others it must be confessed, however reluctantly, that it is but too just. But Philadelphia is at last falling into the line of progress. Many steps have been taken in the line of preventive medicine. Her streets begin to present less of the appearance of a general

dumping ground for rubbish; the rookeries, hotbeds of crime, that flourish in the city's heart are being abolished. She has protested vigorously being discriminated against by railroads, and she has obtained dollar gas. True, her citizens still decline to support home publications, and have a disposition, at least in some professional circles, to seek individual exaltation by the process of pulling down all who might become possible rivals. But the city is advancing, however slow the rate of progress.

In many cities the pace of advancement in matters sanitary has been set by the city fathers. In Philadelphia, unfortunately, the converse seems to be true. The powers that be act as a clog on whatever spirit of progress is shown by the public. All that has been gained has been at the expense of long and persistent demand, and there is not the slightest doubt but that in the matter of sanitation alone many valuable lives have been sacrificed to imperfect conditions, long after the demand for the change of such conditions has been made.

In no particular is this fact shown more clearly than in the matter of the water supply for the city. The agitation over the necessity of a change, either in the sources of supply or by the filtration of the supply in use, was begun as early as 1876. Under the stimulus of a particularly severe revolt from using for potable purposes a liquid colored with mud and coal dust, flavored with sewage and algae, and, under the microscope, teeming with disease germs, the city fathers would occasionally awake from their lethargy long enough to begin an inquiry like that of 1883, hear the report, and then, upon the recommendations made by the expert employed, consistently go to sleep with a pleasing consciousness of duty done. What more could the public demand? Official inquiry should be a panacea for all woes, and if the people would only let the water rest as the city fathers did their brains, the fluid would, through sedimentation, become as free from impurities as said brains were of ideas. What was the use of stirring up things anyhow?

Marvelous to relate there seems, at last, a prospect of a change and a possibility that there will be some action instead of all talk. Under the pressure brought to bear upon the matter by individual protest and by various organizations of this city, other investigations have been made, and it is probable that in the near (more or less) future the method of sand filtration will be used, and water instead of liquid filth will be offered us to drink.

That there is reason for this constant demand for pure water beyond the mere individual distaste for the use of an unpalatable article, can readily be seen by reference to sanitary statistics, particularly in regard to the relation between the spread of disease and the water supply of a place. In a recent article in the *Chatauquan* Dr. Frank J. Thornbury says that every cholera outbreak of the past fifty years has been traced to the use of impure water, and that a single case of typhoid fever, if the excreta be improperly disposed of, is sufficient to contaminate a whole reservoir, lake or river, and endanger the health and lives of thousands of persons. We further quote:

"Strikingly illustrative in this connection is the epidemic which occurred at Plymouth, Pa., in the summer of 1885. The estimated population of the town was 9,000. Of this number 1,104 were attacked with the fever and over ten per cent. of the cases proved fatal, there having occurred in all 114 deaths. The epidemic was traced to a single case of typhoid fever, located upon a hillside up the stream which supplied water to

the reservoir of the town. The dejections were not properly disposed of, and in the spring when the annual thaw came the germs of typhoid fever were carried down the hillside into the stream and then into the reservoir from which the residents received their drinking water.

Water is more apt to be impure in winter than at other seasons, owing to the deficient oxidation of organic matter due to the presence of ice upon the surface. After the ice upon which refuse matter has accumulated during the winter breaks up in the spring, there often occurs a considerable increase in the number of typhoid fever cases in large towns and cities. As to the effect of freezing upon the quality of water—in Lake Zurich bacteriological investigations have revealed the maximum number of germs from November, 1889, to January, 1890, to be 202 per cubic centimeter; from January to March, 2,179; from March to April, 2,152; from April to May, 1,425; in May and June, 229. Water of the Potomac at Washington in January, 1888, contained 3,774; in February, 2,536; in March, 1,210; in April, 1,531; in May, 1,064; in June, 348; in July, 255; in August, 254; in September, 178; in October, 75; in November, 116; in December, 967. Most cities send their sewage absolutely without treatment to mingle with adjacent waters from which the drinking supply is obtained. In other words the citizens seem content to drink complacently water containing raw sewage."

Typhoid fever has for many years been the particular scourge of Philadelphia, and these statements have thus a local interest. The city now derives its water supply from the Delaware and Schuylkill rivers,—94 per cent. from the latter and the balance from the Delaware. Allen Hazen, C.E., of Boston, who has recently investigated the water supply of this city for the Woman's Health Protective Association, with a view to recommending the adoption of a system of sand filtration, says, in the *Journal of the Franklin Institute:*

"An effort is now being made to treat and purify the sewage of Reading before its discharge into the Schuylkill River; but there is no assurance that this treatment as yet is adequate. Aside from Reading, all sewage produced upon the water-shed is discharged directly into the streams.

The water from the Schuylkill for Philadelphia is pumped from two pools formed in the river by dams within the limits of the city. The sewage from portions of the city was formerly discharged into these pools. An intercepting sewer has been constructed, which takes sewage to a point below a dam below the lowest pumping station. The district served by this intercepting sewer is sewered by what is known as the separate system. That is to say, the rain water and sewage are removed by separate systems of carriers, and little, if any, sewage is discharged from the city sewers at any time into the river above the intakes. The river banks above the city limits, and the west side of the river, where the latter forms the boundary, directly opposite the city, are occupied by manufacturing establishments discharging directly into the river. The use of water from the Schuylkill at the present intakes is most objectionable, and the use of water from such a polluted source should be abandoned at the earliest possible moment.

Aside from possible tidal pollution, the Delaware River is much less polluted than the Schuylkill; its flow is greater; its water is softer; it is less subjected to local pollution, and, in every way, it is more desirable as a source of water supply than the Schuylkill; and the same is equally true whether the waters of each are used in their raw condition, as at present, or if each of them should be filtered by equally good systems of filtration."

There can be little doubt that the prevalence of typhoid fever and other zymotic diseases in Philadelphia is attributable directly to the conditions ruling the present water supply, and when the death rate for such diseases is examined, the necessity for action is at once apparent; not only from a human-

itarian standpoint, but also from the economic. It is estimated that there are annually about 400,000 cases of typhoid fever alone in the United States, of which at least 50,000 prove fatal. A conservative estimate of the value of each individual to the State is at least $1,000, and the cost of each case of fever is about $200, hence the enormous loss to the nation through the prevalence of disease will readily be seen. When the expense attached to other diseases that may be attributed to impure water is added to this, the estimate will be swollen to enormous proportions, and the necessity for immediate action becomes patent, so that he who runs may read.

The securing of an abundant supply of pure water will be a measure of incalculable benefit, and will mark a greater progression than any step hitherto taken by the government of this city.

Fiftieth Anniversary of the Northern Medical Association, December 5, 1896.

The Northern Medical Association will reach the fiftieth anniversary of its organization December 5, 1896.

With one exception (The College of Physicians of Phila.), it is the oldest medical organization in existence in this city.

At a stated meeting, held September 11th, the motion to celebrate this fiftieth anniversary in a fitting manner was carried and the undersigned committee was appointed to make arrangements for marking this semi-centennial milestone in the path of our professional advancement by a banquet, addresses by the oldest surviving members of the Society and by having a pleasant, shoulder-to-shoulder meeting of the profession in general.

The committee, fully appreciating the just pride to which the Association is entitled because of its years, the laudable work done under its auspices, the eminent men, some of whom are living but in our memory by the good they have left behind them, while others are scattered far and near, but all of whom once took part in its proceedings and launched their first efforts in scientific medicine before its members, and, above all, that this is a semi-centennial jubilation of a pioneer medical association in the city of Philadelphia, the great medical metropolis of this continent, feel that, in asking the rank and file of the profession to do honor by their presence and give support by their subscription, they ask but of each to do honor to himself, his profession and Philadelphia. Moreover, it is a well-recognized fact that in the routine life of the profession of medicine, each member being the autocrat in his own individual sphere, there is a tendency to an alienation from his colleagues and those progressive principles which are so essential to an accurate acquisition of the sum total of that which enables us to fully represent our duty toward our patients, ourselves and science. To overcome this tendency has always been the aim of The Northern Medical Association in all its transactions. The coming together around the festive board on an occasion for common pride and mutual congratulation, like this, carries with it an unity of purpose that makes us appreciate one another's individual strength, while it mitigates the accredited shortcomings in any common end.

The banquet will be given at the Hotel Walton on the exact anniversary—December 5, 1896—at 8 p.m. The per capita assessment has been fixed at $5.00. Please send your subscription or cheque to Dr. Updegrove, P. O. B. 2904, Station S, before the last mail of Saturday, November 28th.

Dr. S. Updegrove, Treasurer,
Dr. S. Wolfe, Secretary,
Dr. I. P. Strittmatter, Chairman,
Committee.

Cutting Glass With a Layer of Oil.

Pour oil into the bottle until it reaches the level where it is desired to cut off the glass. Then heat a poker in the oven until it glows, and plunge it into the oil. A report follows, and the job is done. At the exact level of the oil the glass is cut off smooth.

This is explained by the fact that bottle glass cannot stand a sudden rise of temperature: under such circumstances it bursts along the line where the temperature is raised.

CORRESPONDENCE.

ANESTHESIA DURING SLEEP.

EDITOR OF THE MEDICAL AND SURGICAL REPORTER:

While there is a paucity of literature or reference in medical writings to the subject of anesthesia during sleep (see Dr. Cleaver's article in THE MEDICAL AND SURGICAL REPORTER of October 31, 1896), yet from the few published experiences there is no doubt as to the possibility of its accomplishment. H. C. Wood, in his *Therapeutics and Materia Medica*, says that "experiments made in the Philadelphia Hospital have proven that persons sound asleep may be chloroformed without their being awakened." In THE REPORTER of March 5, 1881, is a reference to some experiments made by Dr. Quimby, cited from transactions of American Medical Association, which go to prove the same thing. Also in THE REPORTER of September 18, 1886, is another instance given, but as the subject may have been in a condition of stupor, this particular case is not conclusive.

Several years ago I succeeded in chloroforming a sleeping child three or four years old without awakening it, and afterwards reduced a dislocated shoulder. There is no question in my mind but that healthy children in sound sleep can be chloroformed without being wakened if proper precautions are taken, but there is a probability that more difficulty would be encountered in producing a similar condition in a sleeping adult. Respectfully,

J. W. HUFFMAN.

PRESCOTT, IOWA, November 12, 1896.

ABSTRACTS.

CITY AND COUNTRY DOCTORS.*

What are the inducements to the study of medicine? Let us consider the financial aspect of the question first. The easiest and quickest way to a competence is to locate at some country "Corners," out of reach of competition, and where a living may be expected almost from the start. The first year's receipts will be from five to eight hundred dollars; there will be an increase for a year or two, but then comes the limit of ambition, and, although the physician is practically assured of as good a living as most of his neighbors, he is isolated from his natural companions and doomed to a hard routine of long drives over rough roads, often at night, and particularly at the very seasons when the weather is most inclement. "Doctoring" may pay better than pitching hay, and if the country practitioners represented simply the uneducated young men who study medicine "for what it is worth," our sympathies would be due not to the doctor, but to his patients. Unhappily for the former, and fortunately for the latter, so many good men are forced by circumstances to practice in the country that the standing of country doctors is far higher than their meagre recompense would indicate. There are also undesirable quarters in most cities which afford a paying practice almost from the beginning, but it is difficult for a physician thus located either to grow into a better practice or to save enough to make a fresh start. While the country doctor may console himself with the thought that without

*A. L. Benedict, in *Lippincott's*.

himself, or some one in his place, much suffering would result, the city resident is as needless as he is unfortunate, for his patients could easily send for one of many practitioners within a few blocks. No better advice can be given to a young physician than "Locate where you are willing to live."

Such a choice of residence, however, involves the ability to meet expenses for two or three, perhaps four or five, years, without relying on a professional income. Several eminently successful physicians have stated their first year's collections at from fifteen dollars to two hundred and fifty.

HOW ANTI-TOXINES ARE DEVELOPED.*

The new treatment of diphtheria is a practical application of the latest advances of experimental bacteriology. The general facts upon which it is based are briefly these: Certain bacteria, when developing in the organism of an animal or man, produce an albuminoid poison called a toxin, which, circulating in the blood, causes disease. For example, the Klebs-Lœffler bacillus, growing in the throat of a child, generates a toxin that produces the systemic condition called diphtheria.

If some of these bacteria be removed from the organism and placed in artificial media, such as broth, under proper conditions they will grow and multiply and produce the same toxin as before. This toxin may now be separated from the bacteria by filtration, and if introduced into an organism by inoculation it will produce the disease as readily as if it had been formed in the organism. But the virulence of the disease thus produced will vary with the quantity of the toxin injected. Moreover, if the first dose given is so small as to produce only slight illness, a larger quantity may be introduced a few days later without producing a corresponding effect; and progressively larger doses may be administered from time to time, until at last the animal receives with impunity doses many times larger than could possibly be borne at first.

In the case of the diphtheria toxin for example (obtained, as has been said, by growing the diphtheria bacillus in meat broth), if fifteen drops of the filtrate containing the toxin be injected into a vein of a horse, the animal will be severely poisoned. But by repeating the injection from time to time in progressing doses, at the end of three or four months the animal will bear a dose of two hundred times the original quantity. In other words, the animal has become immune to the disease.

If now a vein of the immune animal be opened and some blood withdrawn, the serum of that blood (the other constituents being removed) may be injected into the system of another animal or a human being without ill effect, and the animal or human being thus inoculated becomes immune to the disease, in virtue of the inoculation. More than that, if the organism inoculated had already acquired the disease, the inoculation, within reasonable limits, is curative. For example, if a child has been exposed to diphtheria, inoculation with the serum of a horse rendered immune to diphtheria as above described will prevent development of the disease. At a later stage inoculation tends to cure the disease.

These are the facts as applied in the new serum treatment of diphtheria.

*From *Harper's Weekly.*

Served Him Right.

In the peaceful vale of Lichtenberg,
At the Lion's sign, I think,
I was fain to eat, and ordered meat
And a cup of cooling drink.

Quoth I to the maid with rosy lips
Who brought the welcome cheer,
"A golden coin I'll gladly give
For kiss of thine, my dear."

Quoth she: "Good sir, that ne'er will do.
No man hath kiss of mine.
But if thou will'st I'll kiss thy cup."
She did—then drank my wine.

—From the "Editor's Drawer," in *Harper's Magazine.*

PERISCOPE.

Formulæ.

HYPODERMATIC PURGATIVE—

℞
Caffeinæ et chloral . . . . . āā gr. viiss.
Aquæ . . . . . M lxxv.

S. Inject fifteen minims.—*Ewald, Journal de Médecine de Paris.*

ANTIDYSPEPTIC—

℞
Bism. subnit.,
Magnes. sulphat.,
Cret. prepar.,
Calc. phos. . . . . āā 10

M. Div. in cachet No. xl. S. One before each meal in dyspepsia accompanied with pains and flatulency.—*Dujardin-Beaumets.*

ANTI-ASTHMATIC—

℞
Tinct. opii 4
Ether sulphuric 8

M. S. About fifty drops every twenty minutes in attacks of asthma with emphysema.
—*Clymer*

INFANTILE DIARRHEA—

℞
Bism. subgal . . . . . ℥ i.
Sodii bicarb . . . . . gr. v.
Cret. prep. . . . . ℥ ss.
Creosoti . . . . . gtt. v.
Syr. cinnam . . . . . ℥ iv.
Aq. dest . . . . . q. s. ad ℥ iv.

M. S. Teaspoonful after each movement.—*Griffin.*

ABSORBENT POWDER—

℞
Alum, finely pulverized 5
Carbonate of lime, pulverized 4
Starch, pulverized 50
—*Sigmund.*

CUTANEOUS IRRITATION OF MEASLES—

℞
Lanolini puris . . . . . ℥ i.
Vaselini . . . . . ℥ iij.
Ol. ricini . . . . . m ij.
Aq. dest . . . . . ℥ v.

Ft. ung. S. Apply as required.—*Practitioner.*

TOOTHACHE—

℞
Chloral hydrate,
Camphor,
Carbolic acid,
Glycerin . . . . . āā ℥ iss.

Introduce into tooth cavity a ball of cotton moistened with this mixture.

EARACHE—

℞
Chloral hydrate,
Camphor,
Carbolic acid . . . . . āā gr. xiiss.
Castor oil . . . . . ℥ iv.

Warm the mixture and put a few drops in the ear.—*College and Clinical Recorder.*

EPILEPSY—

℞
Antipyrin . . . . . ℥ i.
Ammonium bromid . . . . . ℥ iiiss.
Strontium bromid . . . . . ℥ i.
Solution of potassium arsenite . . m xl.
Extract of solanum carolinense . ℥ xss.
Water . . . . . q.s. ad ℥vi.

M. Dose. A dessertspoonful or more twice daily.—*Gas. hebd. de Méd. et de Chir., 1896, No. 19.*

OBESITY—

1. Ex. fucus vesiculosus . . . . 8 fl. ozs.

Sig—Tablespoonful three times a day.—*Chapman.*

2. Potass. permanganat . . . . 4-16 grs.
Aquæ . . . . . 4 fl. ozs.

M. Sig.—Dessertspoonful three times daily.—*Bartholow.*

4. Ammon brom . . . . . 2 drs.
Aquæ . . . . . 8 fl. ozs.

M. Sig.—Dessertspoonful three times a day, well diluted.—*Tanner.*

FOR CORNS—

Painted on the corn night and morning for several days, when the corn will, as a rule, come readily away :—

℞
Acid. salicylici . . . . . 30 grs.
Ex. cannabis ind . . . . . 10 grs.
Collodii . . . . . 4 fl. drs.

M. —*Medical Record.*

CHRONIC DIARRHEA AND DYSENTERY—

℞
Cupri sulphat,
Morphinæ sulphat . . . . . āā 1 gr.
Quiniæ sulphat . . . . . 24 grs.

M. ft. pil. No. xii.

Sig.—One pill three times a day.—*Med. Bulletin.*

FEVER BLISTERS—

℞
Camphor . . . . . 5 grs.
Arrowroot, powdered . . . . . 30 grs.
Bismuth subnitrate . . . . . 30 grs.
Cold cream . . . . . 4 drs.

M.

NEWS AND MISCELLANY.

The regular meeting of the section on pathology of the Buffalo Academy of Medicine was held November 17. Dr. H. Mynter discussed the "Pathology of Appendicitis."

The management of the Journal of Nervous and Mental Disease, announces the following arrangement of the staff for 1897: Editors, Dr. Charles L. Dana, Dr. F. X. Dercum, Dr. Philip Coombs Knapp, Dr. M. Allen Starr, Dr. Charles K. Mills, Dr. James J. Putnam, Dr. B. Sachs; Associate Editors, Dr. Philip Meirowitz, Dr. William G. Spiller; Managing Editor, Dr. Charles Henry Brown.

For local treatment of gout take half an ounce of iodide of potassium, dissolve it in half a pint of rectified spirit—methylated spirit is used in hospital practice—add one ounce of soap liniment, and then one-half drachm each of oil of cajeput and oil of cloves. A piece of lint is soaked in this mixture, wrapped round the affected part, covered with a protective, and kept in place by a bandage. Dr. William Murrell (*Lancet*) says this acts as a powerful counter-irritant, and the inflammation usually subsides in from twelve to twenty-four hours. In addition, I not uncommonly give a drachm of colchicum wine with ten grains of iodide of potassium three times a day. These large doses of colchicum wine induce brisk purgation, sometimes accompanied by vomiting, but they speedily cut short the attack. This mode of treatment is especially useful in the case of robust, full-bodied men in active employment, to whom the loss of a day's work is a serious consideration. In sciatica, lumbago and rheumatism affecting one joint the local application of a liniment containing half an ounce of salicylate of sodium, half a drachm of oil of cajeput, fifteen minims of oil of eucalyptus, and half an ounce of soap liniment in six ounces of rectified spirit affords prompt relief.

The following causes for chronic constipation are given by Dr. James D. Staple, in the *Medical Times*: (1) Lack of tone in the muscular coat of the intestines, causing a decrease in peristalsis, usually due to imperfect regional innervation. (2) Deficient secretion or excessive absorption. People leading sedentary lives are predisposed to constipation. The symptoms (excepting in those cases due to organic disease) are loss of appetite, imperfect indigestion, nausea, headache, irritability, mental depression, bad complexion, acne, sleeplessness. Hysteria in the female and hypochondria in the male have been often caused by constipation, and it is even stated that a condition of disease bordering upon insanity may be brought about by a long-continued defective formation of feces and imperfect action of the bowel. Moreover, the material which should have been removed will accumulate in the blood, and in consequence such diseases as gout, rheumatism, etc., may be developed. The treatment may be divided into (1) non-medicinal, and (2) medicinal. Under the non-medicinal we may include: (*a*) correction of diet; (*b*) fluids before breakfast; (*c*) exercise; (*d*) cold bath or rubbing the body with a rough towel; (*e*) kneading the abdomen; (*f*) going to stool at a regular set time. In the medicinal treatment of chronic constipation the giving of purgatives should be avoided, the reason being that patients acquire the habit of depending on them. Small glycerin suppositories are highly recommended, being rapid and certain in action and their use unattended with griping or irritation of the gastro-intestinal tract. In cases in which aperients must be given, cascara sagrada is recommended, but even in these cases it is well to begin with some natural mineral water.

A Contribution to the Pharmacology of Thyroiodin.—As the result of an experimental investigation, Hildebrandt (*Berliner Klinische Wochenschrift*, 1896, No. 37, p. 826) has found that thyroiodin, an organic substance isoluble from the thyroid gland, is capable, when injected subcutaneously, of preventing in dogs the development of the symptoms that follow complete extirpation of the thyroid gland and in keeping the animals alive. The substance probably represents the active principle of the gland. The albuminuria and the glycosuria that usually follow thyroidectomy in dogs are also prevented by injection of thyroiodin. Neither iodin nor its salts are capable of inducing similar effects.

The American Association of Obstetricians and Gynecologists, at its ninth annual meeting, held at Richmond, Va., elected the following officers for the ensuing year: President, James F. W. Ross, M.D., Toronto; Vice-Presidents, George Ben Johnston, M.D., Richmond, and John C. Sexton, M.D., Rushville, Ind.; Secretary, William Warren Potter, M.D., Buffalo; Treasurer, Xavier O. Werder, M.D., Pittsburg; Executive Council, Charles A. L. Reed, M.D., Cincinnati; Lewis S. McMurtry, M.D., Louisville; A. Vanderveer, M.D., Albany; J. Henry Carstens, M.D., Detroit, and William E. B. Davis, M.D., Birmingham. The next annual meeting was appointed to be held at the Cataract House, Niagara Falls, N. Y., August 17, 18, 19 and 20, 1897.

Digestive Disturbances in Infants.—The multitude of infant foods in the market and the numerous methods proposed from time to time to assimilate cow's milk as closely as possible to human milk, illustrate most forcibly the difficulties still encountered in the artificial feeding of infants. The chief objection to pure cow's milk is that its casein curdles thick, firm masses, which are not readily digested, and are apt to overtax the gastric

functions. On the other hand, diluting the milk, the best means of obviating this is equivalent to diminishing its nutritive value and the larger quantity that must be given to compensate for this is apt to exert a deleterious influence. If, however, the milk receives an addition of albuminous material, equal or superior to casein in nourishing properties, it can then be diluted to the proper degree, so that its casein will no longer coagulate into indigestible curds. Dr. H. Wolf, assistant to the Pediatric Clinic of Prof. Monti, of Vienna, states that this can best be accomplished by the addition of somatose, a food product consisting of the albumoses of meat in a concentrated, soluble, readily-assimilable form. He reports 35 cases of children suffering from gastro-intestinal complaints, in which this somatose milk exerted remarkably beneficial effects upon the local trouble and the general condition of the patient in almost every instance. During its use there was a progressive gain in weight, the dyspeptic disturbances and restlessness ceased, and the stools became of normal color and consistence. Coincidentally with this gain in flesh the anemia subsided, as was demonstrated by an increased number of red-blood corpuscles. The digestive disturbances of older children were also favorably influenced by somatose. On the ground of his experience, Dr. Wolf therefore considers himself justified in concluding: first, that by addition of somatose to cow's milk it is rendered more digestible; second, that by its administration to infants the milder forms of dyspepsia are improved; third, that somatose milk is well tolerated by children suffering from marasmus, and fourth, that in functional disturbances of the digestive tract in older children excellent results are derived from the administration of somatose. In view of the fact that in the 35 cases recorded this preparation was employed exclusively without resorting to medicinal agents, Dr. Wolf's observations are entitled to the most careful consideration.

The treatment of carbuncle with zinc chlorid, boric acid and iodoform, has proved successful according to Asst. Surg. P. Victor, in the *Indian Medical Record*. The patient, a man forty-five years old, suffered from a huge carbuncle on his back; it measured twelve inches in length and seven inches in width. There was oozing of pus from several small openings. As the patient was too weak and exhausted, and had a temperature of 102° F., the author refrained from placing him under the influence of chloroform at once, and making a free incision and scraping. He therefore ordered a large carbon poultice to be applied every four hours, which broke down the skin and showed a very large gaping wound with sloughs in abundance. The wound was thoroughly washed with antiseptic lotion, and the entire surface brushed with a solution containing four grains of zinc chlorid to an ounce of water. It was then dusted with equal parts of boric acid and iodoform, and dressed with antiseptic gauze. As the discharge was very profuse, the dressings became saturated, so the carbuncle was dressed daily and brushed with the zinc chlorid solution every second day. On the eighth day the fever abated, and on the ninth day the wound was clear of all sloughs, and looked healthy and granulating.

The October (quarterly) meeting of the Medico-Legal Society of Philadelphia, was held on the 27th, Dr. A. B. Hirsh, the president, in the chair, and was characterized particularly by the importance of the subject of the evening's lecture. About fifty persons attended and, after election to membership of Drs. George Y. MacCracken and Victor G. R. J. Rehm, some twenty new members were proposed. The Society's guest of the evening was Dr. B. Meade Bolton, the chief bacteriologist of the city, who has just been called to the professorship of Pathology and Bacteriology in the University of Missouri. In an able paper (shortly to appear in the *Popular Science Monthly*) entitled: "Are the Bacteria Probably Employed in the Commission of Crime?" he held the full interest of the assemblage. Going over many recently ascertained details cognate to the subject, he showed that the cold scientific facts would not permit of any sensational or actual employment of bacteria in the performance of criminal deeds. The thanks of the Society were voted Prof. Bolton, and he was entertained at dinner by the members.

Owing to the widespread use of camphor in the arts and medicine, its increasing scarcity and consequent expensiveness have raised the question of artificial cultivation. Dr. E. Grassmann urges the importance of increasing the plantations to the greatest possible extent, and placing some restriction on the wanton destruction of the trees.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2073. SATURDAY, NOVEMBER 28, 1896. VOL. LXXV—No. 22

ORIGINAL ARTICLES.

EIGHT PRIMARY MOVEMENTS OF THE NORMAL SPINE AS A BASIS FOR GYMNASTICS IN THE TREATMENT OF SCOLIOSIS AND ALLIED CONDITIONS.—A PRELIMINARY REPORT.*

J. T. RUGH, A.B., M.D.†

The successful treatment of scoliosis and allied conditions of the spine is attended with many difficulties, among which may be mentioned the chronicity of the condition, the marked deformity when the case is (usually) seen for the first time, the rigidity of the spine and its related parts, the great length of time required by the treatment, the work necessary on the part of the patient, and the multiplicity of exercises necessary to prevent the monotony that is sure to follow the continual performance of the few heretofore prescribed.‡ The age, habits, temperament, etc., of the patient are also important factors in the prognosis and treatment, but far less essentially so than those first mentioned.

The combined method of treatment, viz:—by exercises and apparatus—is the one most favored and most frequently employed by orthopedic surgeons at the present day. It has for its aim the prevention of further increase of the deformity and, at the same time, the development of the atrophied and weakened muscles and the increasing of the flexibility of the spine. By a systematic course of treatment, is secured the muscular development necessary to maintain correction when once secured and to the proper performance of the more powerful positional exercises that are designed to overcome the deformity, and increase the mobility and flexibility, and, at the same time, carry to a higher degree the muscular development begun by the first and simpler movements. In a given case requiring exercises, it is easy to say to the physician, "give exercises and restore the function of the spine and you effect a cure." He may readily grasp the principle of treatment, but as these exercises must be given

* Read before the Philadelphia County Medical Society, November 11, 1896.

† Adjunct Professor of Orthopedic Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine; Chief Clinical Assistant in the Orthopedic Department of Jefferson Medical College Hospital; Chief of Clinic in the Throat and Nose Department of Jefferson Hospital, etc., etc.

‡ Text-books usually direct from twenty to thirty exercises to obtain a cure.

through a long period of time (varying from one to three or four years), the problem of multiplying them becomes of the utmost importance. This is especially true of the physician who has not made an extensive study of the deformities of the spine or who seldom has to do with such cases. For guidance he turns to any authority upon the subject and finds thirty or forty or more exercises given as being indicated in scoliosis and similar conditions, and with these he begins the treatment. This supply is soon exhausted and he is at a loss how to proceed further. He finds that he must either cease treating the case, or repeat the same exercises over and over, and then the patient tires because of the monotony of their use. The continued repetition has grown irksome and the improvement is so slow that interest in the work is soon lost and further treatment is suspended. One rarely sees a patient who will perform the same movements three times a day for a year or so; but with properly selected gymnastics and many of them, persistence is easily maintained and a cure of the deformity is the reward of both patient and physician.

The employment of these exercises has always been a matter of empiricism, one writer quoting those given by another, and perhaps adding a few of his own, but laying down no rational basis or system by which further treatment is governed. A physician may secure sufficient for a given case, if he be of fertile resources, or have a number of text-books, but reproduction of these becomes more or less a matter of memory when he has another similar case to deal with, which makes the process burdensome as well as very irrational. Tubby, of London, whose work on *Deformities* is the most recent contribution to orthopedic surgery, divides scoliotic patients into two classes, "those in whom muscular weakness is pronounced," and "those in whom muscular development is fair," and gives about twelve or fifteen exercises for the treatment of each class; yet he furnishes no directions for further gymnastics. This is the same method as is adopted by all writers on the subject and the treatment of such deformities has, in this particular, remained at a standstill. Some statistician has collected over four thousand exercises without gymnastic apparatus, which are applicable to the treatment of scoliosis, but to remember one-eighth of this number would not only burden the memory, but also would be unnecessary when the different forms can be so easily systematized and rendered available for use.

After I had formulated the plan herein embodied and had almost completed the preparation of this report, I found that Noble Smith (Curvatures of the Spine, 2d Ed., p. 14), had recorded very concisely the movements of the normal spine as follows: "The spinal column can be moved anteriorly, posteriorly, or laterally; or these movements may be combined in circumduction. The whole spine can also be rotated upon its own axis;" and with this declaration he dismisses the subject and directs exercises in the treatment of spinal curvatures empirically, enumerating one form after another to be used in certain cases and conditions. He apparently did not recognize the fact that the cure of these cases demanded the restoration of the normal function and consequently the employment of these natural movements for that purpose. With the following eight movements as a basis, a rational system of exercises can be formed, and for purpose of demonstration, I will again enumerate them.

1. Bending forward.
2. Bending backward.
3. Bending to the right.
4. Bending to the left.
5. Combining these movements in circumduction to the right.
6. Combining these movements in circumduction to the left.
7. Rotation of the spine upon its vertical axis to the right.
8. Rotation of the spine upon its vertical axis to the left.

This description of the movements of the normal spine is in accord with that of anatomists, who describe the normal motions of joints as flexion, extension, adduction, abduction, circumduction, and rotation, and while these terms do not cover all the motions of which a joint is or may be capable, yet all others are, perforce, modifications of these primary

forms, and it is this conception of the spinal capabilities that is of so great assistance in multiplying and directing new and proper gymnastics for the treatment of these most obstinate conditions. Even as direction in space is referred to the four cardinal points of the compass, so all spinal movements may be classified under these eight simple forms, and all belong to or are modifications of bending, twisting, or circumduction.

In all cases of scoliosis or allied spinal deformities, there is more or less rigidity of the spine present, due not to an inflammatory or other pathologic condition of the bony or muscular structures, but to the muscular debility, inactivity and atrophy, and to the long-continued assumption of the mal-posture. With this rigidity, there is also limitation of motion in one or more directions. The exact amount of such rigidity and limited motion can be ascertained by having the patient perform these primary movements and noting the degree of flexibility of the spine in each. The guide to the gymnastic treatment is thus obtained, and exercises that will increase the motion in the desired direction can be prescribed. Since all movements, then, are limited to eight cardinal forms, it is evident that variety must be had by change of position, and in many cases, if not in all, this is the most important part of the treatment, as, by this means, total correction of the deformity in some cases and partial correction in all cases, may be obtained. While, therefore, certain attitudes are indicated in certain cases, they are directly contra-indicated in others; hence the importance of this part of the treatment.

The relations that the arms and legs bear to the spine are of course most important as altering the contour of that part. For instance, raise or extend an arm and note the curving of the spine toward that side. The same obtains in the case of the legs, because of the tilting of the pelvis upon changing the relative length of the legs by lifting or moving one of them in any direction. A lumbar curve may be obliterated by this action, or a dorsal curve by the proper placing of the arms; and by the combination of these two, the "key-note" positions, or those in which the greatest amount of correction obtains, are assumed, and a better result is obtained in the treatment.

What positions, then, may be used for the purpose of multiplying exercises? All those that to a greater or less extent obliterate the existing deformity, such as lying prone or supine upon the floor or table, sitting on the floor, on a chair or on a stool, with the legs in various positions, or one hip raised, standing with feet together, feet separated, one advanced or retracted, standing on one foot, using the rings, trapeze, or bars, kneeling on both knees or on one knee, squatting, and so on, without number. But in all these positions, the spine can be moved only in the eight primary ways.

In this short paper I do not discuss the mechanism of these motions and positions and their importance as altering the deformity and restoring the function of the spine, as these will be considered at length in a more or less elaborate study of this subject, to be published later. In bringing this subject before you, I do not wish to be understood as originating a new form of treatment for scoliosis and other similar spinal conditions; but the object may be briefly stated as:

1. To remove the employment of exercises from the realms of empiricism, where it has so long held sway.

2. To place it upon a scientific and rational basis.

3. To make this basis so simple that every physician can readily grasp the underlying principles.

4. To place within every physician's reach a complete system with which to rationally meet the requirements of each and every case.

5. To make it possible for the physician to personally direct the forms of exercises when it may be deemed expedient to refer the patient to a masseur.

THE VOMITING OF APPENDICITIS—

The *Revûe Internationale de Médecine et de Chirurgie* credits Pick with this formula;

℞

Menthol	8 gr.
Cognac	1½ oz.
Laudanum	5 drachms.

M. Sig. Take from ten to twenty drops several times a day in a little sweetened water.

REPORT OF WORK WITH ROENTGEN RAYS AT THE POLYCLINIC HOSPITAL.*

MAX J. STERN, M.D.†

It is my purpose to demonstrate by means of photographic plates and prints some of the results attained during the last six or eight months in the Roentgen ray laboratory of the Philadelphia Polyclinic. I am impelled to do this, rather than present a paper dealing with the physical side of the subject, in the belief that to the surgeon and the general practitioner the greatest amout of interest still attaches in this new field to the tangible results that can be pictorially reproduced and with certainty demonstrated. While the present paper will of course deal with generalities only, it is my hope that I may, from time to time, present such accurate detailed knowledge as I shall have gained from my almost constant labor in this new diagnostic field.

I shall briefly recount the technic pursued in obtaining the pictures which I shall present. The various procedures are carried out in a large, airy, darkened room. The light is excluded not because of any effect it may have on the photographic plate or that the chemic changes induced on it by the X-rays are in any way interfered with, but because the amount and color of the light in the tubes can be the better observed, and the retina, accustomed to the surrounding darkness, is much more sensitive to an appreciation of the value of an image on the fluorescent screen. The deeper the green light in a tube and the greater its coincident intensity the more X-rays are being given off. When the light approaches a yellow color the visual or fluoroscopic picture is usually better, but the radiographic effect poorer.

The electric energy is derived from a chlorid accumulator storage-battery of the series known as "Type 5 E." This has been by far the most satisfactory of all the various kinds of batteries I have tried. The Ruhmkorff coil is one with an eight-inch spark and the regulation spring-vibrator. I have not employed the brake-wheel. The Crookes' tubes I am at present using are the new three-electrode tubes devised by Prof. Stein of the Chicago University and made for me by Messrs. Queen & Co. They have proved the most satisfactory so far employed. Their distinguishing feature is that when the vacuum in the tube becomes high, as it almost always does after a long exposure, it can be sufficiently reduced to make the tube again available by a change in the polarity of the electrodes and a reversal in the direction of the electric current in the tube. The stand for the tube and all wires employed are insulated as perfectly as possible, to reduce the electric leakage to a minimum.

The patient or subject to be exposed to the rays is placed in a position most favorable for either visual observation or an exposure to a plate, as the case may be. This is only too often a matter of much study and frequent experimentation. Thus, if it is desired to obtain an antero-posterior radiograph of the knee-joint for instance, the natural conclusion would be to lay the subject on his back. place a plate under the posterior aspect of the joint, and the tube above the patella and make the necessary exposure. True, a very acceptable picture of the joint can be obtained in this way, yet when compared with one taken in the reverse position, i.e., with the sensitized side of the plate in contact with the anterior surface of the limb and the tube excited against the popliteal aspect, it will be found that the exposure can be reduced almost, if not quite, one-half, and the resulting picture be infinitely sharper and hence more beautiful in its contrasts. What has been said of the knee-joint is practically applicable to almost every other portion of the human body. It can be

*Read before the Philadelphia County Medical Society, Oct. 10, 1896.

†Professor of Clinical and Operative Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine.

readily understood then, that, at times, when long exposures in apparently awkward positions are necessary, much ingenuity must be exercised to place the subject in such position that the enforced quietude shall not become to irksome. For this purpose a bed, tables, racks, bed-rests, various-shaped chairs, splints, pillows, bandages and assistants must be at hand, or the operator will meet with obstacles that appear insurmountable.

The sensitive plate I now invariably use is X-ray plate specially prepared by Mr. John Carbutt of this city. It is by far the most rapid and most generally satisfactory of all the plates I have employed, and I have tried all the more rapid ones, and a number of the slower of those most commonly employed by American photographers. The ordinary plate that I have found to approach most nearly the specially prepared X-ray plate is the Carbutt B. 16. I am firmly convinced that the best plate has not yet been produced and our plate-makers must devote their attention to the evolvement of one that shall respond much more rapidly to the X-rays than do those at present employed. My belief is that some fluorescent material may be embodied in the emulsion that by its absorption of, or agitation by, the rays will greatly enhance the activity of the chemic change in the silver-salts employed. The plates as furnished at present by Mr. Carbutt are packed separately, first in black needle-paper, then in a black envelop and finally in an outer sealed one of yellow post-office paper. This packing renders them light-tight and with ordinary care will prevent fogging.

The remaining necessity for obtaining a successful picture is the fluoroscope. This is a box shaped like a truncated pyramid. The inner surface of the base is coated with afluorescent material, in this country almost invariably of calcium tungstate; abroad, apparently always barium platinum cyanid. The upper end is open and lined with a furry material. When the observer's eyes are placed within this aperture the box becomes light-tight. At present I shall only consider the fluoroscope in its relation to obtaining a successful radiograph. When a fluorescing screen or fluoroscope is directed to an excited Crookes' tube, its base or sensitized surface becomes luminous. The fluorescence can be compared to the impression received in looking from a darkened room through a sheet of ground glass into light beyond. An object interposed between the tube and the screen, will, if sufficiently impervious to the rays, give a shadow-picture. The more impervious the substance to the X-rays, or the greater the mass of the same substance, the darker will be the resulting shadow. For this reason our pictures show sharp values in substances of different densities or more delicate ones in tissues of the same character but of greatly varying thickness.

We measure the activity of our tube, or the amount of X-rays that is being given off, by the brilliancy of the fluorescence of the calcium-salt and the sharpness of definition and detail shown in the shadow-picture of an interposed body, which for convenience is usually the hand or arm of the operator. In general terms, the more active the tube (by this I mean the volume of X-rays that is being given off) the shorter the exposure. This time is fixed by the operator and is entirely dependent on his judgment, which is formed from the relative value of the picture presented on the screen. In other words we use a fluoroscope as a sensitometer.

Having briefly detailed the necessary apparatus I shall review the succeeding steps followed in obtaining a picture. Most subjects seem to be timid about submitting to the essential exposure, probably because the method has not been sufficiently employed to make the procedure familiar to the general community; but unless they are exceedingly stupid, particularly refractory or intoxicated, little or no difficulty is experienced in removing all dread of evil consequences. In children, however, the task of preventing movement, and, not infrequently, violent struggling is often a most difficult one, for one cannot reason their fear away, and the noise of the vibrator, the electric sparking and the general gloom of the darkened room, frequently arouse their worst fears, more particularly if they have been the subject of some painful injury. A little diplomacy, a coin or confection

will, however, often produce astonishing results. After the exposure has begun and proceeded for some little time, the subject soon quiets down, a feeling of languor follows, and not infrequently, sleep. I shall have occasion again to refer to this effect.

The part to be portrayed always contains a bony portion, which lies nearer to one surface than another. I am, of course, considering only the human frame. Now this is an axiom: the closer the contact between the sensitized plate and bone, the shorter the exposure and the less the distortion and the sharper the resulting picture. Whether injury to bone is sought to be portrayed, or a foreign body to be located, the law remains unchanged. In the latter instance the nearest bony prominence that can with accuracy be demonstrated must serve as the landmark from which measurements must be directed and calculations made. Failure to grasp this point has led to frequent and trying disappointments. It is but an illustration of how essential is an anatomic knowledge even in successful skiagraphy. The best picture will always be obtained with the plate in contact with that surface of the body which is nearest the underlying bone that is sought to be most sharply portrayed in the skiagraph.

The position of the tube in relation to the part is largely a matter of experience. The tendency of all operators at the beginning of their career, is, I presume, to have the tube in too close contact with the subject. This has several unfortunate results. For one thing, the picture will always be distorted, and lack sharpness of definition. Should a light be gradually moved from an object, a point will be reached where the shadow will give an image, fairly reproducing the body of the original, and showing sharp lines. This point would be the proper one at which to place the tube. To prevent burning, however, is the more important reason why the Crookes' tube should be at a sufficient distance from the patient. We know that a portion of the body may, with safety, be exposed to the diffuse rays of the sun, yet, should some of these rays be collected by means of even a mild convex glass and directed to the same part, the result would be a burn, the degree and severity of which will depend upon the duration of the exposure and the amount of surface involved. I believe the X-rays produce such an effect when the tube is held too close to the body. There is an area about the center of the field of activity of a Crookes' tube which is very much more powerful than any toward the periphery.

All those cases of so-called sloughing reported in the newspapers are, I believe, nothing more or less than burns of the first and second degree, produced by long exposures with the tube placed in improper relation with the part to be skiographed.

The necessary exposure will be shorter (1) as the spark-gap is larger up to a certain point, probably about ten or twelve inches; (2) the more nearly the vacuum of the tube is at that point of exhaustion at which the coil employed will give off the greatest amount of X-rays; (3) the nearer the tube to the proper focal point; (4) the less the density and volume of the tissue in the part to be portrayed; (5) the more sensitive the plate.

The exposures of the body vary from that of a finger or toe, which requires the least time, to that of a hip joint, which requires most. With the coil I employ I have obtained very beautiful pictures of the hand and forearm in two minutes, but it requires at least an hour to get even a fair representation of the hip-joint of a well-developed adult.

The development of the plate and its subsequent treatment admit of wide latitude and are matters I shall not at present discuss. The printing, however, must be considered briefly. In the first place, almost all highly glazed papers will give better results with X-ray plates than will mat surface-papers. More or less of the detail will be lost in the latter; yet for exhibition purposes, they are better, as the reflection of light from their surface is less, and they can be more readily seen by a large assemblage. Any of the good albumin or collodion papers of glossy surface will be found best for X-ray work. Much of the beauty of a finished picture is due to the treatment of the plate, after it is placed in the sun to print, and those desiring to acquire a knowledge of this branch of

X-ray work should first serve an apprenticeship in a photographic gallery, as I did. Frequently certain parts must be printed out and others restrained, depending entirely upon the part of the picture it is desired to emphasize.

There is another subject that I desire to discuss briefly, the incidental effects of an exposure. In regard to the former I may say that in an ordinary exposure of a limb in a person not of an excitable temperament little or no change can be detected in the vascular or nervous system. If, however, the tube be directed over the thorax of even one who has frequently been exposed and has neither dread nor other cause to suffer reflex excitation of the cardiac centers, a decided acceleration and change in the character of the heart-beat can be detected. The rise in an assistant of mine amounted to as much as fifteen beats in the minute. The change in the character of the beat can also be detected in sphygmographic tracings, as was shown in the case of a patient suffering from a large thoracic aneurism who had been exposed a number of times and in whom no cause for excitement existed.

FURTHER INVESTIGATION OF EUCAIN HYDROCHLORATE AS A LOCAL ANESTHETIC.

G. W. SPENCER, M.D.,* PHILADELPHIA.

Since the recent report made on eucain hydrochlorate,[1] further observations have been conducted upon many new cases in which eucain was used as the means of inducing local surgical anesthesia. All who have tried eucain, and all who have seen its anesthetic effect agree with the following statement which we made in the former article: "Eucain is a valuable addition to our resources. It is rapid in action, safe, produces positive and prolonged anesthesia, causes no serious after-effects, and can be rendered aseptic by boiling. It is the best local anesthetic before the profession."

In the nose, throat and eye, eucain has given great satisfaction, and operations upon these parts can be performed without a particle of pain. In operating upon these regions solutions similar in strength to those of cocain may be employed but we use a much greater amount of solution of eucain than of solution of cocain. There is not much difference as regards the rapidity, intensity and duration of the anesthesia caused by each of these agents. The greatest difference between cocain and eucain, is that eucain can be administered in large doses without danger, while corresponding doses of cocain would put the patient in deadly peril. Cocain in the hands of not a few, given in very small doses has caused marked symptoms of poisoning.

A paper was read at the session of the Hufelandsche Gesellschaft, Berlin, April 16, 1896, by Dr. Gaetans Vinci. of Messina, (*Duetsche Medicinische Zeitung*, No. 34, April 27, 1896,) who says there are some important differences between cocain and eucain. In the first place eucain is less poisonous than cocain. Whilst the animals treated with eucain survived, other animals injected with the same doses of cocain died. The pulse with eucain is always decreased in frequency; with cocain there is a primary acceleration. As regards their local action, the time for complete anesthesia and its duration, there is no difference between the two substances.

Prominent dentists both in Germany and France speak highly of eucain as a safe and reliable agent. H. Kiesel Zahnarztliche Rundschau, Berlin, April 5, 1896,) says he has known of eucain since November, 1895, and has used it extensively in dentistry. His results have been so satisfactory with this drug that he has cast aside ethyl chlorid and

*Assistant demonstrator of surgery, Jefferson Medical College.

1University Medical Magazine, Nov. 1896.

ethyl bromid. He claims as much as 2 garms (30 grains) can be injected without trouble and says half that quantity would, however, under favorable circumstances be sufficient to painlessly extract all the teeth. Dr. C. L. Schleich of Berlin, the originator of the infiltration-method of anesthesia thinks there is not the slightest doubt that eucain is just as efficacious as cocain in causing anesthesia of the mucous membranes. He has used it in twenty cases and has not met with a single case of poisoning. Experiments made upon his own person showed that the anesthesia of the wheals was complete. He says it should replace cocain. American surgeons, dentists and ophthalmologists are rapidly familiarizing themselves with the advantages of this drug.

The following cases will demonstrate the value of eucain hydrochlorate for inducing local anesthesia without producing systemic effects, not only in minor surgical operations, but also in operations of considerable magnitude.

Case I. Male; operator, the writer. Diagnosis—traumatic gangrene of the little finger. Operation—amputation at the metacarpo-phalangeal joint by the racket method. The wound was closed with eight sutures. Duration of the operation was ten minutes and the amount of eucain used was two drachms of a five-per cent. solution hypodermatically. The patient when asked afterwards in regard to the pain of the operation replied: "It hurt a little but I suffered much more before the operation than during it."

Case II. Male; operator, the writer. Diagnosis — small melanotic sarcoma just above the elbow. Operation—excision, the would was closed with three sutures. One drachm of a five-per cent. solution of eucain injected around and beneath the growth permitted a painless operation.

Case III. Male; operator, the writer. Diagnosis — large sebaceous tumor of the neck. Operation — removal and insertion of seven sutures. The operation lasted fifteen minutes and was painless throughout. The amount of eucain was two drachms of a five-per cent. solution used hypodermatically.

Case IV. Male; operator, the writer. Diagnosis—ingrowing nail on the big toe accompanied by eczema of the adjacent tissues. Operation—extirpation of the outer half of the nail and matrix. Anesthesia induced by the administration hypodermatically of one drachm of a five-per cent. solution of eucain. Operation painless.

Case V. A private patient of Dr. Savitsky's; operator, Dr. Savitsky and the writer. Diagnosis—paraphimosis and sloughing of the glans penis. Operation—relieved the constriction by three incisions, opened also the purulent area of the glans. The amount of eucain used was one drachm of a five-per cent. solution hypodermatically. The patient had slight pain during the operation.

Case VI. Male; operator, Dr. J. Chalmers Da Costa. Diagnosis—dermoid cyst in the sacral region. The cyst had ruptured forming a sinus three inches in length which led from the sacrum to the surface of the body. Operation—incision and curetting the sinus, removal of the cyst walls, also of some of the periosteum of the sacrum to which bone the cyst was firmly attached. The duration of the operation was twenty minutes. The amount of eucain was two drachms of a five-per cent. solution hypodermatically. The wound was closed with four sutures and the operation was entirely painless.

Case VII. Female; operator, Dr. J. Chalmers Da Costa. Diagnosis—chrondroma on the palmar aspect of the hand near the fifth metacarpo-phalangeal joint. Operation—extirpation, gouging the tumor from the metacarpal bone, closure of the wound with seven sutures. This patient was nervous and somewhat apprehensive. She had looked forward to the operation with great dread. One drachm of a five-per cent. solution of eucain used hypodermatically not only permitted a painless operation but seemed to act as a sedative to her excited nervous system.

Case VIII. Male; operator, Dr. J. Chalmers Da Costa. Diagnosis—Albert's disease (bursitis of retro-calcaneal bursa and periostitis at insertion of tendo achilles). Operation—incision of bursa, removal of osteophytes from oscalcis, curetting of bursal sac, etc., closure of wound with four stitches. Operation was entirely painless.

CASE IX. Female; operator, Prof. W. W. Keen. Diagnosis—needle in the hand. The needle was extracted without pain. Ten minims of a five-per cent. solution of eucain was used hypodermatically.

CASE X. Male; operator, Dr. Horwitz. Diagnosis—suppurating bubo. Operation—excision, curetting, removal of a gland and application of pure carbolic acid. This patient had slight pain. The amount of eucain used was two drachms of a five-per cent. solution hypodermatically.

CASE XI. Male; operator, Dr. Horwitz; diagnosis, hydrocele. Operation—opening, drying the sac, application of pure carbolic acid, packing and insertion of two sutures. Two drachms of a five-per cent. solution injected into the tissues permitted a painless operation.

CASE XII. Male; operator, Dr. Horwitz; diagnosis, phimosis and concealed phagedena. Operation—circumcision and application of pure nitric acid to the ulcer. Two drachms of a five-per cent. solution of eucain injected into the prepuce did not secure a painless operation in this patient. It was not a failure, but was not so successful as is usual.

CASE XIII. Male, operator, Dr. Knox; diagnosis, traumatic gangrene of the tissues covering the first phalanx of the index finger. Operation—amputation at the middle of the middle phalanx, closure of the theca, stitching the flexor tendon to the periosteum and closure of the wound with five satures. The operation was painless, and the amount of eucain used was forty minims of a five-per cent. solution hypodermatically.

CASE XIV. Male; operator, Dr. W. J. Hearn; diagnosis, epithelioma of the forehead. Operation—excision and closure of the wound with four sutures. One drachm of a five-per cent. solution of eucain injected around the base of the growth. Operation was painless.

CASE XV. Male; operator, Dr. W.J. Hearn; diagnosis, thyroid cyst. Operation—a two-inch incision was made over the cyst, cutting layer by layer until the cyst wall was reached. The external surface of the wall was firmly attached to the surrounding tissues by old bands of adhesions, and the base of the cyst was attached to the thyroid cartilage. The cyst was separated from the surrounding tissues and from the thyroid cartilage by means of a dry dissector. The operation lasted twenty minutes. In this case two drachms of a five-per cent. solution of eucain was injected around the base of the tumor, and during the operation small amounts of the solution was dropped into the wound from time to time, amounting in all to one drachm. The result was entirely satisfactory. The patient said he felt "no pain at all." The cyst was the size of an English walnut, and six sutures were required to close the wound.

CASE XVI. Male; operator, Dr. W. J. Hearn; diagnosis, fistula in ano. Operation—five minutes after two drachms of a five-per cent. solution of eucain were injected into the sinus, the fistula was incised, curetted and packed without giving the patient any pain.

CASE XVII. Male; operator, Dr. W. J. Hearn; diagnosis, empyema. Operation—an incision was made between the sixth and seventh rib. The incision extended through all the tissues into the plural cavity. After a pint of pus escaped, a large rubber drainage tube was inserted and the outer end was stitched to the skin. The operation lasted ten minutes and was accompanied by very slight pain. After the operation was over it was found that Dr. Hearn began the operation three minutes after the eucain injection, instead of waiting for the required time of complete anesthesia, which is five minutes. The amount of eucain used was two drachms of a 5 per cent solution.

CASE XVIII. Male; operator, Prof. Brinton; diagnosis, melanotic sarcoma of the neck. Two drachms of a five-per cent. solution of eucain injected around the base and beneath the part removed, allowed a painless operation. This was an incurable sarcoma, and operation was performed simply to rid the patient of an ulcerated mass twice the size of an English walnut. The wound was closed with nine sutures.

CASE XIX. Male; operator, Prof. Brinton; diagnosis, epithelioma of the lower lip. Operation—excision by a V-shaped incision. The incision passed through the entire thickness of the lip. The mucous membrane was

closed with five fine silk sutures, and the edges of the wound were brought together with seven silk worm gut sutures. Two drachms of a five-per cent. solution were used hydodermatically. The operation was painless.

CASE XX. Male; operator, Prof. Brinton; diagnosis, fatty tumor on the forehead. Operation—a two-inch incision was made over the tumor, the tissues were divided layer by layer until the capsule was exposed. The capsule was then incised and the fatty mass removed, and after three ligatures were applied, the wound was closed with six sutures. Two drachms of a five-per cent. solution of eucain were used hypodermatically, and operation was painless from the beginning to the end.

CASE XXI. Male; operator, Prof. Brinton; diagnosis, large nevus that invaded three-fourths of the upper lip. Operation—the nevus was removed by a V-shaped incision, the apex of which extended one-eighth of an inch into the right nostril. The base terminated at the lower margin of the lip. The base of the part that was removed was one inch in width and consisted of the entire thickness of the lip and a mass of dilated blood vessels. After a number of vessels were ligated, the mucous membrane was sutured with six fine silk sutures and the edges of the wound were brought together with six silk worm gut sutures. Thus the number of sutures used in this case was twelve. To control the hemorrhage, clamp forceps were placed at the angles of the mouth and these naturally gave the patient considerable discomfort, otherwise the operation was painless. The amount of eucain used was two drachms of a 5-per cent. solution hypodermatically. The duration of the operation was twenty minutes.

Tracheotomy was successfully and painlessly performed in the Jefferson hospital during the month of October, 1896, on cases 22, 23, and 24 of our list, by Dr. Jones, clinical professor of laryngology in that institution. The anesthesia in each case was induced by eucain. Each patient received three drachms of a five-per cent. solution, two drachms of which were injected in divided amounts above, below and at the sides of the area in which the incision was to be made. The other one drachm was dropped into the wound from time to time during the operation.

CASE XXII. W. W., male, aged forty-two. Diagnosis, syphilitic stenosis of the larynx.

CASE XXIII. P. B., male, aged fifty-three. Diagnosis, inoperable sarcoma of the larynx.

CASE XXIV. H. A., male, aged fifty-three. Sarcoma of the larynx.

The operation for each of the above cases consisted in making an incision over the middle line and in the long axis of the trachea. This incision extended from the upper border of the cricoid cartilage; downward for two inches, it divided the skin and superficial fascia. The anterior layer of the cervical fascia was then incised and the sterno-thyroid and the sterno-hyoid muscles were separated. In each case the isthmus of the thyroid gland extended well up on the trachea and it was found necessary to incise the fascia which invested it in order to expose the trachea. The said fascia was incised by a transverse incision at the upper border of the cricoid cartilage, and this allowed the isthmus to be lifted and pushed downwards. In each case three rings were incised and a tracheotomy tube was inserted. The operation in each case lasted about twenty minutes, and anesthesia was complete throughout. The number of sutures used in cases 22, 23 and 24 were six.

An analysis of the twenty-four cases mentioned will probably convince the reader that in eucain we have an agent which is safe and reliable. Cases 22, 23, 24 are considered major operations. While cases 1, 4, 6, 7, 10, 14, 15, 16, 17, 21 are not major operations, they are such cases as ordinarily require the use of a systemic anesthetic to permit of operation. The operation on cases 15, 22, 23 and 24 was greatly facilitated by using a drug that induced anesthesia, but which allowed the patient the control of the trachea. With anesthesia by eucain, these patients are conscious and can keep the trachea still during critical stages of the operation. In anesthesia from a systemic anesthetic, mucous accumulates in the lungs and stomach and efforts at expulsion keep the trachea constantly in motion,

which movement greatly interferes with the operation. Chloroform and ether irritate the lungs and predispose the patient to acute bronchitis and pneumonia. Tracheotomy itself is a predisposing factor in pneumonia.

Taking these facts into consideration, it is well to select an agent to allow of a painless operation, which will not effect injuriously the respiratory organs while operating in their locality. No pulmonary symptoms followed the use of eucain in any of the above cases. Case 10 had mitral regurgitation. Two drachms of a five-per cent. solution had no effect on the circulation. Case 7 had an irritable heart and she was very nervous. Two drachms of a five-per cent. solution acted as a sedative to her condition. Case 17 had one pint of pus in the left pleural cavity; this naturally deprived the heart of a portion of its space. Two drachms of a 5-per cent solution had no effect on the circulation or respiration. The average duration of anesthesia from eucain is about twenty minutes. The time to wait for complete anesthesia is five minutes. Two drachms of a five-per cent. solution used hypodermatically will in the majority of cases be sufficient to induce anesthesia; but larger amounts can be employed if necessary. The number of sutures used in the operations were ninety-three. After using and seeing sutures employed in so many cases, I do not agree with the assertion made by Fuller (*International Journal of Surgery*, September, 1896,) that eucain exerts hardening action on the tissues.

PHLEGMASIA ALBA DOLENS.*

LUDWIG SCHROETER, M.D., BUFFALO, N. Y.

As in all other branches of medicine, so also in midwifery the tendency of the last decades has been toward preventive treatment, and the results of these endeavors have been so brilliant that some diseases are becoming obsolete, and the medical man of the future will be perplexed in reading about some diseases of the past.

The great horror of the obstetrician of former years (and partly of to-day) was puerperal infection, which killed 10 to 20 per cent. of the parturient women in hospitals towards the middle of this century; nowadays, with the aid of preventive asepsis, the mortality of parturient women is so low, that some hospitals claim the honor of not losing a single woman from sepsis during years. This may be the reason that in the latest textbooks of midwifery the subject of puerperal infection, with its different morbid forms, is treated rather briefly.

But there are classes of patients, for whom antiseptics seem not to have been invented; these are the poorer, uncultured classes, where women often deliver themselves or are delivered by kind-hearted, but not overly clean neighbors, and at best by midwives, many of them of the antediluvian type; and here it is that one can find puerperal infection in every possible form. Happening to practice among such a class of people, I have had the opportunity to see some forms of infection, which are not of every-day occurrence.

Phlegmasia alba dolens, or the white swelling of the leg, is a misnomer, as there are cases, although rare, in which the swollen leg is of a rather dark color. The etiology of this affection has been a mooted question for many years, and even now some points are not elucidated. Some authorities claim that the presence of a thrombus is essential; others think that the thrombus is a secondary development and not essential. Some authorities, whose side I would rather take, discriminate two forms of this affection; one from pressure by the infiltration of the connective tissue of the interior portion of the pelvis, with the resulting lymphostasis and consecutive

*Read before Obstetrical Section of Buffalo Academy of Medicine, June 23, 1896.

blood-stasis and thrombosis of the veins; and the second form, the septic form, in which the stage of lymphostasis is not present or is very brief. In the May, 1895, meeting of the London Obstetric Society, Dr. Roberts mentions, as an etiologic factor of great importance, hemorrhage at or after labor; in none of the cases I have seen was hemorrhage present. Vidal claims to have discovered in many cases of phlegmasia a streptococcic invasion of thrombosed veins; by others the bacillus coli communis has been incriminated.

Varicose veins and sluggish circulation are thought to predispose to phlegmasia. The affection appears usually during the second or third week after labor, is sometimes preceded by a chill, begins with a feeling of numbness in the leg, which swells, assumes a shining appearance, is mostly white, but in some cases has a livid hue; in most cases only one leg is affected; in some others, both legs, and in rare instances, the arms may be attacked. The veins are often felt like strings. The usual duration of the affection is four to six weeks; in most cases there is *restitutio ad integrum*; in others, deep suppuration develops, or the veins may remain obliterated after all other symptoms have disappeared. The thrombus may be washed away and produce emboli, or if of putrid character, give rise to metastatic abscesses. It may also happen that an embolus may occlude the pulmonary artery, with sudden death as a result. In the majority of cases the prognosis is favorable *quoad vitam* not so *quoad valetudinem completam*, as there may remain adhesions of the pelvic organs, sacculated abscesses, etc.

I have seen, during the last six years, over twenty cases of phlegmasia, of which I have notes only of six cases in my own practice and one in consultation with Dr. Hartwig, and will give you concise histories of these seven cases.

(1.) Mrs. B., mother of five children, had two abortions; all her confinements were normal. On June 24, 1892, she was delivered by a midwife of a living child; was up and around two days later. I saw her July 5th. She had been sick two days, beginning with a feeling of numbness in her right leg. She had pains while moving her limb; loachia normal, no sensitiveness over the abdomen, leg swollen, shining, of hard consistency, sensitive to touch, femoral vein distinctly felt thrombosed; I did not see her for four weeks; August 15th, the size of the right leg was nearly double that of the left; she complained of excruciating pains, which prevented her from sleeping. September 3d, she was walking around, complaining of numbness, but no pains; two weeks later she was completely well.

(2.) Mary P., thirty-five years old, multipara; saw her October 10, 1892, in her sixth confinement. A midwife had performed podalic version, but could not deliver the head; after two hours I was called and extracted the head manually. The puerperium was uneventful till October 18th, when she felt severe pains in her left leg, preceded by chills; the leg was swollen, sensitive to touch, hard, shining, with a livid hue; no thrombus could be felt; the left hypogastrium was very sensitive. For six weeks the same condition prevailed, with temperature ranging between 102° and 104°. November 26th a tumor could be felt over the left Poupart's ligament. I applied hot poultices, and November 28th made a deep incision, evacuating about a cupful of ichorous pus. The swelling of the leg rapidly subsided and in the middle of November she was out of bed.

(3.) Mrs. O., thirty-eight years old, had given birth to seven children, three of whom had been delivered by forceps. After her fifth child, she says, she had a stormy puerperium, with high temperature. She was laid up at that time for ten weeks. April 6, 1893, I was called to see her, after she had been in labor for thirty-six hours. I found the head with its greater part over the brim in left occipito anterior position, waters drained off twenty hours before, labia majora greatly swollen and congested. I applied forceps but did not succeed in bringing the head into the cavity; as the child was dead, I proposed perforation, which was refused; another physician was called but he also had to desist after a trial with the forceps and perforated. April 12th, she developed all the symptoms of phlegmasia in her right leg. No thrombosis could be felt; she

suffered for four weeks and fully recovered; her temperature never rose above 101°, and her pains never were very severe.

(4.) April 12, 1893, I was called to see Mrs. B. H., who delivered herself of her fifth child twelve days before; she complained of pains in her left leg, which was swollen, slightly puffing, white and glistening; the femoral vein was distinctly thrombosed; lochia normal, abdomen not tender, uterus slightly movable and painless. She was sick for four weeks and fully recovered.

(5.) Mrs. S., twenty-six years old, in labor with her second child for twenty-four hours, bag of waters had broken ten hours previous to my visit; the midwife who attended to the case thought the second period lasted over four hours. It was a face presentation with the chin to the front. I applied forceps and delivered her of a still-born child. Eight days later, May 15, 1894, I saw her again. She was in great pain, extending in the direction of the right sciatic nerve, discharges normal, her right leg slightly swollen, shining and of hard consistency, femoral vein thrombosed, abdomen not sensitive to touch, uterus freely movable. She was laid up for over four months with no appreciable change during all that time. I saw her again in July, 1895. She was still limping at that time and the femoral vein remained thrombosed. I have not seen her since.

(6.) Mary W., forty years old, had five normal labors. I saw her in June, 1895. She was in labor about forty hours, attended by some neighbor woman. I found the head at the outlet of the pelvis in the low transverse position, occiput to the right; I waited for rotation of the occiput for more than an hour, but notwithstanding very energetic pains, there was no rotation, so I applied forceps and delivered the woman of a still-born boy, whom I resuscitated. Six days later the woman complained of numbness in her right leg and pain in her right glutea; two days later the leg was considerably swollen, shining and of a livid color, very sensitive; no thrombosis could be ascertained; temperature 104°, preceded by a chill, right hypogastrium very tender, lochia diminished in quantity and foul smelling; a week later a deep fluctuation could be felt below Poupart's ligament. I made an incision and about an ounce of pus was discharged; she felt better for a few days, her temperature came down to 100°, but then rose again to 104° and she complained of severe pains on the inner side of the same leg. The woman was put under chloroform narcosis, and I made a deep incision in the region of the vastus internus muscle and a great amount of very bad smelling pus spurted out; she had rest again for about two weeks, when she started to complain of pain in her left leg, which became swollen and shining; the most sensitive spot was below Poupart's ligament. As the woman was very emaciated, and her home was by no means of such a character as to give her the necessary comfort in such a long disease, I had her removed to the Erie County Hospital; there she had several metastatic abscesses opened and besides a thoracotomy was performed on account of an empyema on the right side. I saw her in October fully recovered.

(7.) Mrs. D., thirty years old, midwife, had five normal labors; engaged Dr. Hartwig for her sixth confinement; but before the doctor reached her house she gave birth to a boy; she developed, about fourteen days post partum, all the symptoms of phlegmasia alba, with which she was laid up for about three months. This case would speak very strongly against the infectious character of the affection; but the patient admitted that she was examined by her mother, who being anxious "to help" her daughter, introduced her fingers into the vagina.

The treatment in all my cases was purely symptomatic; absolute rest and elevation at the affected limb; anodynes, and last but not least, a warning against rubbing with different liniments for the fear of embolism. This warning is of importance in the practice among the poorer classes, as there every pain is treated by rubbing with some remedy. In two cases I tried the application of a mixture of liqu. ammon. acot. spr. æther and camphor, warmly recommended by Dr. Clendenin, *The American Journal of Obstetrics*, of 1890, but it gave me no satisfaction.

CURRENT LITERATURE CONDENSED.

Acetanilid Poisoning.[1]

I received an urgent call one morning to see Mr. K., who, the messenger said, was in a fit. I found the patient lying upon the bed unconscious and in a semi-rigid condition; pulse imperceptible at the wrist; heart's action very feeble, and extremities cold. But the most striking condition was the color of the skin, which was deeply congested, giving the patient that peculiar blue appearance observed in cases of lightning stroke, the extremities especially being almost black, and the ears quite so. In fact, they did not regain their natural color for twenty-four hours. I first administered hypodermatics of whiskey, followed by others of nitro-glycerine and strychnia, hot applications to the extremities, and instituted artificial respiration. Under this treatment I had the satisfaction, after a time, of seeing my patient gradually improve until finally he recovered. His wife had gotten up at five o'clock, while it was yet dark, and had found him lying crosswise on the bed. She shook him, but as he did not awaken, thought he was sleeping soundly and went down stairs, it being still dark so that she did not notice his condition. She came up stairs again as it was getting light, and then saw that he was getting blue. She tried to arouse him and found that she could not, and immediately called to the neighbors and sent for me. It was not until Mr. K. had recovered so far as to be able to talk that I found out what he had taken, though the symptoms led me to believe it was one of the coal-tar derivatives. In answer to my questions as to what he had taken, he said nothing but a tablespoonful of salts upon retiring the night before. On being asked if he knew that it was salts that he had taken, he said yes, but remembered the stuff did act rather queer, for it would not dissolve in water. An inspection of a small portion that was left plainly showed acetanilid, and if anything was needed to confirm this it was found in a faint pencil-mark on the outside of the wrapping-paper. It was some that had been in the house for over a year, left by an old lady that was visiting them, and who was in the habit of using it. He remembered that she had only taken a small amount, as she said that it did not taste right. At the time his wife also took a small amount, and she remembered that they were both sick after taking it, but she thought it was due to some canned plums that they had eaten, and had consequently thrown the rest away. Mr. K., not having been in the habit of taking salts, would not have so readily noticed their insolubility. He said that about 9.30 the evening before he took what he supposed to be a heaping tablespoonful of salts, and retired about ten o'clock. Twenty minutes or so after retiring he commenced feeling bad. Laid perhaps twenty minutes longer, then attempted to get up, but found that he could not control his limbs, and said "he felt," to use his own words, "as if there was something settling over him" Attempted to go to bed and fell on the floor; afterward he succeeded in reaching the bed, but knew nothing more. I will add that the urine first voided was of a dark brown color.

It is said that when an excessive quantity of acetanilid has been absorbed, the alkalinity of the blood is lessened, the red corpuscles destroyed, and the hemoglobin liberated eventually appears in the urine, which becomes a dark brown color. The quantity of uric acid in the urine is increased.

After he had measured out an amount estimated equal to what he had taken, I had it weighed and found it to be over 200 grains.

1 William C. Burnce, M. D., in Columbus Med. Journal.

Aphasia of the Hand.[2]

The seat of language, or rather of ordinary motor speech, has generally been held to be in Broca's convolution or the foot of the third frontal, and the lesion of aphasic disorder of the motor type has been considered as there located, at least in right-handed subjects. The expression of and communication of ideas is, however, not strictly confined to speech, and we have therefore among the different species of

2 Journal American Medical Association, November 28.

aphasia an amimia, or lack of capability of expression by signs, and agraphia or inability to do the same by writing. This last has been called by Charcot "aphasia of the hand," a term that has a certain appropriateness, but which lacks the essential element of aphasia in that writing is an indirect and accessory method of the conveyance of ideas, not the important and primary one. The real and only aphasia of the hand properly so-called, as Professor Grasset says in a recent article in *Le Progrès Médical*, is that of the deaf mute who expresses his faculty of language by the fingers instead of the muscles of articulation. The cases of this kind are, as he remarks, very rarely reported in medical literature, and that which he gives has therefore rather more than an ordinary interest and importance.

The patient, an intelligent deaf mute, aged fifty, was an arthritic subject who presented all the signs of arteriosclerosis, and who had had for two years the symptoms of a gradually progressive softening of the brain, without initial *ictus*, due apparently to thrombosis of some branches of the left sylvian artery. There was no symptom of sensory aphasia, the hearing had been congenitally absent, and word blindness was lacking. He read easily and understood what was said to him in the sign alphabet. When requested he would point out words or letters on the page very accurately and readily; there was a certain degree of impairment of the intelligence as compared with what he had been, but enough remained to redeem him from any charge of absolute imbecility or dementia. He understood what he read or what was said to him, but was unable to reply as he had been accustomed to with his right hand, though he managed to do so with his left. He was also unable to write, and this disability was complete.

There was no such paralysis of the right arm or hand as would account for the phenomenon, though there was a certain degree of paresis. Neither this nor the impairment of intelligence sufficed to explain the existing defect, and the center of language by the deaf and dumb alphabet seems from this observation to be, in a measure at least, distinct from the motor center for the ordinary movements of the arm or hand. We have here a congenital deaf mute, intelligent, fairly educated for his condition, capable of understanding and of communicating his ideas with his left hand, but absolutely incapable with his right, which was before his principal organ of language, so to speak. The power of writing, which had never been acquired by his left hand, was completely lost, while the ability of making ordinary coördinated movements with his right hand was retained. There was no statement as to any facial paralysis, as would have been the case had it existed; the paresis is mentioned as involving only the right arm. The question that is so clearly suggested by this is what center for speech was involved in this case. Was it the usual one for motor aphasia in the third frontal, or is it situated at the foot of the second frontal or in the adjacent portion of the anterior ascending convolution, the center for the arm and fingers? The fact that agraphia, which existed in this case, is a common result also of lesions of Broca's center would speak in favor of the existence of the lesion in the usual seat, but of course this is as yet only a matter of conjecture, while the attending brachial paresis might suggest the probability of its occurrence nearer the arm center, in the foot of the second frontal convolution in this particular instance.

It is to be reasonably expected that the case will not be lost sight of, and that at some future time this matter will be cleared up by an autopsy. As it stands the observation is almost unique as giving an example of a form of aphasia that has been very little noticed by writers on the disorders of speech.

A man accused of arson admitted his guilt to one of the jurors, an Irishman —the other eleven being, fortunately for him, his friends—and promised him $5000 to secure a verdict in the second degree.

"Well," he said to the Irishman, when the jury had come in with a verdict in the second degree, "did you have a hard time bringing them around?"

"Indade oi, did," Pat replied with a weary shake of his head as an earnest of the labor he had. "Iviry wan of thim other fellies wanted to vote for acquittal."—From the "Editor's Drawer," in *Harper's Magazine*.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, NOVEMBER 28, 1896.

PUBLISHERS' NOTICE.

Subscriptions to the REPORTER are payable in advance, and the season being at hand when renewals are most frequent, the publishers request each subscriber to examine the address printed upon the wrapper in which the journal is mailed. The date printed with the address is that TO which the subscription is paid. The subscriber will see at a glance the status of his account. Formal acknowledgment is made of every remittance as received, and the date upon the wrapper is revised accordingly. If not properly altered within three weeks, subscribers are requested to notify us of the oversight in order to prevent subsequent mistakes. Delinquent subscribers will learn the date since which their accounts are in arrears.

EDITORIAL.

THE DECLINE OF QUACKERY.

A subscriber in Nebraska has recently mailed to us the prospectus of a diploma mill, with the request that the REPORTER should expose and exert its influence to correct the evil. We wish, in the first place, to thank the doctor for his appreciation of what the REPORTER considers one of the fundamental duties of a medical journal. A literary magazine is a private enterprise, furnishing reading matter to its purchasers. A medical journal, on the other hand, should rep-

resent the highest interests of its profession and should be in touch with the needs and aspirations of its subscribers.

The institution to which our correspondent refers, is known as the Wisconsin Eclectic Medical College. It is located at Milwaukee, but the circular deals almost entirely with the Correspondence Department at 1001 Congress St., Chicago. We will be generous enough to give the college a little more free advertising. The total fees for matriculation, examination and graduation are $50. It is possible for matriculants to pass an examination at their homes and to receive a diploma without attendance. In fact, the prospectus ignores the question of instruction by lectures or other means than home study from text-books. To the shame of the State of Wisconsin, we quote, "The college has, in all things, complied with the law . . . . No railroad, banking or commercial company could be more legally organized than this medical college . . . . When the State accepts a fee for incorporation and affixes its seal to a charter declaring the purposes and methods of the chartered institution, it thereby sanctions such purposes."

We need not describe the feeling which one naturally has when one encounters a boy who assures us, as a preliminary remark, that "he hain't done nothing," or a woman who prates of her honor. A very similar feeling is conveyed by the asseverations of the Wisconsin Eclectic Medical College of its legal status. Being familiar with the excellent work of the Illinois State Board of Health, we were somewhat surprised to learn that this institution could cross the line and carry its business into Chicago. But the Board informs us that it is powerless in the matter, save that it can and does refuse to recognize the diplomas of "graduates" of this mill. However, we are rejoiced to learn that the Attorney General of Wisconsin has begun action against the college, in order to revoke its charter. It would seem an easy matter to do so, since the college is chartered with power to "teach students the science of medicine, of preparing them to practice as physicians, and conferring upon them, they having been examined and having succeeded in passing such examinations as to their knowledge of said science the degree of 'Doctor of Medicine,' or such other degree as may be proper according to the knowledge exhibited on such examination." Teaching does not mean the recommendation of text-books for home reading nor the acceptance of information picked up, no matter how, during the past life of the matriculant. It is as absurd to construe the permission of the State as a right to examine and graduate without teaching, as to say that a company, chartered to buy and sell certain goods, is empowered to sell goods which it has not bought but has stolen.

The Illinois Board of Health, in spite of its limited powers, has indirectly, through the State Attorney, secured the revocation of the charter of the Illinois Health University, an institution doing business on about the same plan as the Wisconsin Eclectic Medical College. This revocation was secured in July and, in October, an appeal of the University was refused, so that a battle for legitimate medical education has been won.

Although there is much to justify a pessimistic view, both with regard to the qualifications of regularly graduated physicians and the persistence of out-and-out quackery, we believe that a careful study of the subject must inspire hope for the near future. Most States now require some form of registration which is a check on the most flagrant forms of quackery while the admission of several territories as States—

ill-advised as it is on purely political grounds, so long as each State is equally represented in the Senate—does away with partially governed areas in which quackery could breed and flourish to an extent limited only by the development of too great rivalry for a livelihood. In many States, a genuine disposition exists to co-operate with the medical profession in requiring the matriculate to have some sort of a preliminary education, in requiring the graduate to pass an examination before a board independent of college faculties and in compelling the utterly unqualified quack to seek other fields. True, in most instances, only a common school education is required and the State thus, in a sense, sets the seal of its approval on an entirely inadequate preliminary training, but by 1900, a few States and colleges will require an academic training, which is all that can reasonably be expected as a minimum. The licensing boards, on the whole, work satisfactorily and serve, not only to prevent the graduation of students when their subsequent rejection is probable, but also to deter the entrance upon medical studies by men of deficient education.

Within the last few years, one of the most widely advertised patent medicines has proved a financial failure and, so far as an outsider can judge, the pretentious claims and extensive newspaper prominence of advertising physicians, are not in accord with the meagre incomes which they apparently receive. Many quacks, feeling this contrast, strive only for out-of-town trade and are almost unknown in their homes, while the successful local quackery is managed by syndicates which hire physicians at low salaries. People still like to be humbugged, quackery is by no means exterminated, but, all things considered, the evil seems to be on the wane and the laity are less hostile to the efforts of the regular medical profession to protect the whole country, as well as themselves, from the depredations of charlatans.

Recognized Them at Once.

We were all telling mosquito stories at a New Jersey summer resort, when one particularly audacious man said: "Oh, that's nothing. I was off the coast at Barnegat last summer on a fishing trip, and while we were out on deck early in the evening, smoking and chatting, a great cloud of mosquitoes, all of them monstrous birds, came out from shore and settled on the boat; and do you know, in fifteen minutes they had stripped it of every inch of canvas, and left the masts bare as beanpoles!"

We held up our hands in deprecation at this tale, when another of the party exclaimed: "Well, don't be astonished. I can vouch for that. It was only a week after that I was on a trip along the coast, and the same swarm of mosquitoes came out after us."

The first speaker didn't seem to appreciate this unexpected support, for he muttered: "Humph! They did, eh? Well, how did you know they were the same mosquitoes, eh?"

"How did I know?" repeated the other, with a chuckle. "How did I know? Why, they all had on canvas overalls."—From the "Editor's Drawer," in *Harper's Magazine* for December.

Ringing for Prayers.

A very pretty story about a confiding child is told of the four-year-old son of a member of the Georgia Legislature. Having left the boy in a room of one of the big hotels of the metropolis, with the command to go to bed immediately, he went down to seek his congenial friends in the office. The bell-boys were soon thrown into consternation by the many and various calls from the room in which the little fellow had been left, and quite a number of them were soon collected there. But it was not ice-water, or fire, or a "B. and S." that the child wanted. He astonished the boys with this unusual request: "Please, sirs, send some one to me to hear me say my *prayers*."—From the "Editor's Drawer," in *Harper's Magazine*.

CORRESPONDENCE.

A MOVE IN THE RIGHT DIRECTION.

EDITOR REPORTER—We ask you to give publicity to this letter and accompanying resolutions, to the end that, in all communities afflicted with the pestiferous practice of lodge doctoring, physicians may be encouraged to assert their independence through organization.

Here, in Santa Clara County, Cal., containing 70,000 population, all the physicians of the county, numbering 124, have entered the compact that has rid us of a slavish evil, and wrought independence and freedom for the practitioners of medicine. Investigation shows that medical compensation for lodge work averages about fifteen cents on the dollar.

Even respectable lodge physicians feel a sense of degradation in giving their services for fifteen cents on the dollar, and the ever-increasing spread of these alleged charitable institutions is absolutely destructive to the business of other physicians.

The main incentive of the persons who band themselves together in lodges is to get cheap doctoring; they are willing to take, but not to give. They belong to protective unions, and the same right should not be denied physicians. Ninety-nine per cent. of these people are able to pay reasonable fees to physicians, but will not do so as long as a few doctors in every community for the sake of immediate gain can be induced to stand as driven guys to the lodge politicians. No preacher or lawyer would give his services to these people for fifteen cents on the dollar. No grocery store or merchandise firm would contract to supply these lodges with goods at fifteen cents on the dollar of actual worth.

The remedy indicated in the subjoined resolutions is simple, and manifestly efficacious, depending upon the personal honor and free will of those concerned. Where one doctor temporarily profits by contract work the business and ethical rights of fifty others are violated; hence an overwhelming *esprit de corps* is created among physicians which will sustain a strict observance of the pledge.

LINCOLN COTHRAN, M.D.,
Secretary.

SAN JOSÉ, CAL., November 18, 1896.

RESOLUTIONS.

Whereas, Rendering professional services at a stipulated fee per capita per annum is derogatory to the dignity of the medical profession, we, the undersigned physicians and surgeons of Santa Clara County, California, enter into the following agreement:

First.—We mutually, jointly, and individually, pledge our word of honor not to enter into any contract or agreement, or renew any existing contract or agreement, either written, verbal or implied, to render medical or surgical services to any lodge, society, association or organization.

Second.—We will not render medical or surgical services to the members of the above-mentioned bodies for less compensation than we charge the general public for similar services.

Third.—This agreement shall not be construed to affect existing contracts between physicians and surgeons and the above-mentioned bodies.

Fourth.—These pledges shall take effect and be in force for a term of three (3) years from and after May 22, 1896.

This agreement shall not apply to hospitals and purely public charitable institutions.

AN APPLICATION FOR FURUNCLES OF THE EYELID.

℞

Tincture of camphor,	} of each	15 grs.
Precipitated sulphur,		
Limewater,	} of each	150 grs.
Rosewater,		
Gum arabic		3

M. To be painted on the lids once a day.—*Wiener Klin. Rundschau.*

ABSTRACTS.

MODERN SLANG IN SHAKESPEARE.

Leaving legitimate words, and turning to the children of the street and the market-place, we find some curious examples, not only of American slang, but of slang which is regarded as extremely fresh and modern. Mr. Brander Matthews, in his most interesting article on that subject, has already pointed outth at a "deck of cards" is Shakespearean. In *Henry VI.* (Third Part, Act V., Scene I.), Gloucester says,

> "But while he thought to steal the single ten,
> The king was slyly fingered from the deck."

Mr. Matthews has also cited a still more remarkable example of recent slang from the Sonnets, of all places in the world, where "fire out" is used in the exact colloquial sense of to-day. It occurs in the 144th Sonnet,

> "Yet this shall I ne'er know, but live in doubt
> Till my bad angel fire my good one out."

"Square," in the sense of fair or honest, and the verb "to be square," in the sense of to be fair or honest, are thought modern, and are now so constantly used that they have wellnigh passed beyond the boundaries of slang. If they do so, it is but a return to their old place, for Shakespeare has this use of the word, and in serious passages. In *Timon of Athens* (Act V., Scene V.) the First Senator says,

> "All have not offended;
> For those that were, it is not square to take
> On those that are, revenges."

In *Antony and Cleopatra* (Act II., Scene II.) Mecænas says, "She's a most triumphant lady, if report be square to her."

"In the soup," to express defeat and disaster, is apparently very recent, and yet it is singularly like the language of Pompey in *Measure for Measure* (Act III., Scene II.), when he says, "Troth, sir, she hath eaten up all her beef, and she is herself in the tub."

Even more recent than "in the soup" is the use of the word "stuffed," to denote contemptuously what may be most nearly described as large and ineffective pretentiousness. But in *Much Ado about Nothing* (Act I., Scene I.) the Messenger says, "A lord to a lord, a man to a man; stuffed with all honorable virtues." To which Beatrice replies, "It is so, indeed; he is no less than a *stuffed man*: but for the stuffing,—Well, we are all mortal." Here Beatrice uses the phrase "stuffed man" in contempt, catching up the word of the messenger.

"Flapjack," perhaps, is hardly to be called slang, but it is certainly an American phrase for a griddle-cake. We must have brought it with us, however, from Shakespeare's England, for there it is in *Pericles* (Act II., Scene I.), where the Grecian—very Grecian—fisherman says, "Come, thou shalt go home, and we'll have flesh for holidays, fish for fasting days, and moreo'er puddings and flapjacks; and thou shalt be welcome." —From Shakespeare's Americanisms." by Henry Cabot Lodge, in *Harper's Magazine*, for January.

The use of ozone in tuberculosis has given excellent results, according to Labbe and Oudin, (*Journal American Medical Association*). In two months there was a constant increase of oxyhemoglobin, increased numbers of red corpuscles, increase in weight, increased respiratory capacity, with rapid improvement of the functional symptoms, cough, etc. Out of the total of thirty-eight cases treated, they consider seven cured in the first degree, six in the second, and sixteen showed marked improvement; six died. They add that their patients all lived in unhygienic surroundings, and had no other treatment, and that the winter was long and severe. The inhalations were only administered fifteen minutes a day, and they expect much finer results with more comprehensive treatment.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, November 11, 1896.

The President, DR. J. C. WILSON, in the chair.

DR. J. T. RUGH read a paper on

EIGHT PRIMARY MOVEMENTS OF THE NORMAL SPINE AS A BASIS FOR THE GYMNASTIC TREATMENT OF SCOLIOSIS AND ALLIED CONDITIONS.

[See page 673.]

DR. H. C. WOOD presented to the Society Mr. Lewis A. Tallerman, who came from London with a letter of introduction from Dr. Lauder Brunton. Mr. Tallerman delivered a short address on the Tallerman-Sheffield Patent Local and Medical Dry Air Bath for the localized application of dry air heated to a high temperature.

The efficacy of the apparatus was tested on two patients from the Philadelphia hospital: one a case of saturnine gout, the other one of lumbago. Dr. H. C. Wood said that Mr. Tallerman is the inventor of a new method of treating chronic rheumatism, rheumatoid arthritis, sprains, both acute and chronic, and a large number of general inflammations and rheumatic affections. There have been published in the journals, especially in the *Lancet*, a number of very remarkable results said to have been obtained by the use of the apparatus of Mr. Tallerman, who will briefly state the principles of its construction and show its immediate mechanism, and then it is proposed to put the apparatus to the test on two patients whose treatment will require from forty to sixty minutes, so that the results of the treatment can be seen.

MR. LEWIS TALLERMAN said that the therapeutic effects produced by the Tallerman-Sheffield Localized Hot Air Apparatus and Treatment are several. Among them are an enormous increase in the circulation, profuse perspiration of the whole of the body, relaxation of the part, dilatation of the vessels and an increase in the body-temperature, which it has hitherto been regarded as impossible to obtain from local applications of heat. The temperature is usually raised under treatment from 1½° to 4°F, and returns to the normal in from fifteen to twenty minutes after the operation. In rheumatic affections, rheumatoid arthritis, gout, lumbago, sciatica, sprain and kindred disorders, pain is relieved or entirely removed at the first operation and the patient usually expresses the great relief he feels and his ability to move his body and limbs with greater freedom. The progress of the disease is arrested and a curative process is set up at the first operation and it is a remarkable circumstance connected with this relief that the limbs and body outside the apparatus participate in the benefit, and that the benefit is not limited to the part placed in the apparatus and subjected to direct treatment. The Tallerman-Sheffield process is absolutely painless and soothing throughout, and, if permitted, patients under treatment would frequently fall asleep. In very chronic cases and when the disease has advanced to that stage at which the joints are held rigidly fixed by very firm, fibrous adhesions, it is found better and more expeditious to treat the limb for a short time so as to prepare it for more active interference and then to break the adhesions down under an anesthetic. By this method there will result little inflammatory reaction, and if the limb is placed in the apparatus and treated immediately the patient wakes from the anesthetic, the heat will have a remarkable anodyne effect and most of the pain will subside in a short time.

This method has now been adopted in several large London hospitals, including St. Bartholomew's. Mr. Alfred Willett and Mr. Walsham, and other medical men had witnessed the effects of the treatment in a preliminary trial and this was followed by two of these apparatus being sent to that hospital and they were tested in a series of selected cases over a period of two months. At the expiration of that time Mr. Willett delivered a clinical lecture* at that hospital and pointed out the great value of the treatment in certain cases. The lecturer pointed out that in so many surgical cases would the apparatus be serviceable that he hoped that it would not be long before one was available at any time at the hospital and also a nurse trained in its use. He also called the attention to certain medical cases which by analogy he thought might be treated on these lines with great benefit.

This was followed by an invitation from the North-West London Hospital, at the suggestion of Mr. Mayo Collier, where a series of test-cases were treated over a period of two months. The results in these cases were published in the *Lancet* for January, 1895. Among these were cases of rheumatoid arthritis, which had been under treatment at the hospital for two years and had been treated prior to that at the University College Hospital. One patient, a woman of 64 years of

*Published in the *Clinical Journal* for May, 1894.

age, was, according to the hospital notes, quite unable to dress or even to feed herself. Dr. Knowsley Sibley, the physician in charge of the case, kept her under observation for abont two years to ascertain the permanency of the benefit and then exhibited her at the Medical Society of London, with other cases. She had been kept under treatment for two months, but after the eighth operation she was able to return to her work as a seamstress and has been continually at work since, now over two years. For case-notes and reports upon the case, the *Lancet* for June 6 to August 29, 1896, may be consulted. In one case a temperature of from 250° to 260° was experimentally applied for over two hours, and that without the skin becoming unduly sensitive. There is a very great increase in the circulation and morbid matters and morbid products are thrown out of the system, leaving a healthy condition of both joints and tissue.

DR. FREDERICK A. PACKARD demonstrated a case of saturnine gout that had been extremely obstinate to all forms of treatment in so far as his articular symptoms were concerned and had at the time suffered from severe pain in one of the big toes, which was constant in spite of all that could be done. On learning of the Tallerman-Sheffield method of treatment, Dr. Packard thought that the case would be a good one for demonstration because the man was suffering pain in the big toe so that it could not be touched or flexed, and also because he had tender nodes on the hands, so that the effects on peripheral processes far from the seat of treatment could be seen.

DR. H. C. WOOD in answer to the question, "Is not moisture produced by the great heat, and liability of scalding present?" said that the only moisture about the apparatus is that from the limb and this is said to be gotten rid of by opening valves and letting out the air from the cylinder. He presented a case of lumbago in which it was supposed the apparatus would afford marked relief.

After the demonstration DR. WOOD pointed out that the man with lumbago, who had moaned and groaned when touched and had been in the hospital a week without much benefit was, after the treatment, able to get up.

The case of saturnine gout had been under competent medical care for some weeks, without much gain. The man had not moved his toes for three months, but after the treatment he was able to move the toes freely. In fifteen minutes after the treatment was begun he could move his toe, while the pulse went up 20 beats and the temperature rose 1.4°; the other man's temperature went up about a degree in forty minutes and his pulse increased nine beats and gained very distinctly in fulness. The temperature within the apparatus was 260° and the pelvis was kept in it for forty minutes. The patient with saturnine gout stood a temperature of 260° for three minutes; then it had to be reduced to 255°, which he stood for some time. Most of the time the temperature was 248°.

MR. TALLERMAN said that he would prefer these patients to have two or three applications to make assurance doubly sure. He would not feel satisfied with a single application that it would give the best and permanent results. It is his custom in such cases to repeat the treatment a few times.

DR. A. G. REED inquired if pain in the fingers was relieved by the application to the foot.

MR. TALLERMAN replied that it was.

DR. MAX J. STERN asked how the cases would be on the morrow.

MR. TALLERMAN replied that the muscles would probably be stronger, and the present good effects continued. If this were a patient being treated by a physician, he would not be satisfied to let him go. The physician would prefer to treat him once or twice more to make sure.

DR. W. S. STEWART asked what precautions were taken to avoid bad after effects from the rise in temperature.

MR. TALLERMAN said that the patient was briskly rubbed down with a rough towel, and he had never known any bad effects to ensue.

In cases of rheumatoid arthritis, when patients are strong enough to allow of it, he treats them first for four or five times a week and afterwards three times a week. He stated that there was a smaller apparatus for the hand.

DR. H. C. WOOD said that the immediate results achieved by the apparatus were remarkable and that it is stated on the highest authority in England that permanent results are reached; so that the apparatus seems to be an important addition to our therapeutics in a class of cases that have been exceedingly anxious and worrying to all.

DR. MAX J. STERN read a

REPORT OF WORK WITH ROENTGEN RAYS AT THE POLYCLINIC HOSPITAL, WITH EXHIBITION OF SKIAGRAPHS.

DR. ARTHUR W. GOODSPEED called attention to one or two possible improvements in the form of a tube that has not reached the market yet, a tube that was given him two or three weeks ago and which he has been using very successfully for most of the work he has done this fall. It is very much smaller than the ordinary tube in common use, and is especially designed for maintaining its exhaustion permanent. The trouble has been that the tubes would become too highly exhausted with use and special devices have been necessary to obviate this difficulty. One device is to have a third electrode. The first Crookes' tube of focus type used by Dr. Goodspeed (April 6, 1896,) was obtained from the

physical cabinet of the University of Pennsylvania, where it had been for fifteen or twenty years. It has two electrodes besides a platinum disc in the middle; so that there is nothing new in having an extra electrode. The fact, however, that the exhaustion can be varied by expert manipulation of these electrodes is a matter of great importance.

The new tube referred to is coated with some fluorescent substance which seems to occlude on its surface a certain amount of air which is set free by the action taking place in the tube. If the action is too great the tendency to raise the exhaustion is counteracted by the setting free of the gas spoken of; so that to a certain degree the exhaustion of the tube may be maintained constant. If such a tube be worked too roughly, that is at too high an electromotor force, the exhaustion is likely to run down. This may be remedied by allowing the tube to rest a few minutes.

Prof. Hutchinson of Bowdoin College, it was believed, is the originator of this tube. Dr. Goodspeed's experience is not sufficient to give a professional opinion in regard to it yet, but he believes it will be a success.

In regard to the statement of the effect upon the skin Dr. Goodspeed's experience has not agreed with that of Dr. Stern. The difference may perhaps be either in the apparatus itself or in the method of using it. Dr. Goodspeed has not used the tube as close to the surface as seems to have done in one case—never closer than six inches. Dr. Goodspeed's own hand has been in contact with X-rays for hours at a time since February of this year and he has never noticed any effect whatever upon his own flesh or upon any of the patients who have been sent to him by physicians. This effect upon the skin may point to some conclusion which may be evidence in favor of one of the two or three theories that are being discussed now in the physical laboratories in regard to the ultimate nature of these X-rays. One of the theories is that the X-rays are of the nature of light, of very short wave-length. The other theory, which seems to have been gaining ground very rapidly of late, is that the X-rays are material particles which are shot off from the exterior surface of the tube by the bombardment of particles within the tube and that these pass through the fleshy material of the subject and produce their impress upon the plate. If glass particles are shot off from the outside of the tube and are impacted in the flesh why should not some physiologic change be produced? If this matter is followed up and record made of cases, with the degree of severity noticed, valuable evidence may perhaps be secured in favor of the material theory. Therefore those who have cases in their charge should make records of all peculiar conditions, as these records may be valuable in the future.

MR. JOHN CARBUTT spoke only on the practical side of radiography. In the use of the plates, a great deal of success lies in the development. The plate on which most of the subjects shown were made is prepared with a fluorescent substance in the emulsion which causes it to absorb X-rays and prevents their passing through the plate. It was early observed in the use of the dry plate in X-ray work that on the ordinary plate the developed image showed almost as soon on the back as on the front. It was at once concluded that the X-rays had such penetrability that a greater part of the rays must be lost. This loss was attributable to the prolonged exposure in the early part of this year, some of the plates being exposed from one to one and one-half hours by Prof. Goodspeed. In the second or third week in February, Mr. Carbutt took at the Maternity Hospital, for Prof. Magie, of Princeton, a radiograph of a woman's hand, and with one of his most sensitive plates, with an exposure of twenty minutes, got merely a silhouet of the hand without showing bone-formation. He then employed the special or X-rays plate, giving the same exposure, and got full delineation of the bones of the hand. Dr. Goodspeed made an exposure of one the same day in twenty-five minutes and good negatives were secured from that time to the present. Mr. Carbutt said that a good deal of the best work had been done by Prof. Goodspeed, and good results have been obtained in from four to seven seconds. The average time for those who make radiographs is from two to three minutes for the hand; thicker parts of the body, the elbow or arm, require from ten to fifteen minutes.

In the use of the Crookes' tube, one has to study the color of the rays that are produced inside the tube. When it has been working for some time, the kathode rays will be greenish-yellow, and these are best for observation with the fluoroscope, but when the rays are of an apple-green color, they give the best photographic effect. The development of a plate made especially for this purpose should be continued from six to twenty minutes, because the film, being of double thickness, requires a longer time for the developer to penetrate. On developing such plates, rarely will any image be visible on the back even after ten minutes in the developer. Mr. Carbutt has placed two of them together and the upper one yielded a fine negative and the lower had a mere gost of an image. In experimenting on the penetration of celluloid films, Mr. Carbutt has put eight films together and they have yielded six very good negatives, showing that glass is a greater preventative of the rays passing trough. He has under way now experiments with an entirely different sort of soluble haloid, with the hope that a silver haloid can be obtained which will be more sensitive to the X-rays.

Comparing the action of the rays on a plate to that of daylight through the lens, he found that the longer the plate is exposed to the rays, the more dense the result on the margin, which is just the reverse of what takes place

with daylight; as, if an over-exposure in the camera takes place, only a thin flat image results, and the exposure may be continued so that a reversal of the image is secured; but with the X-rays, the longer the exposure, the greater the density, the silver haloid being so acted on where the rays have had full action as to give a thicker, heavier deposit so opaque that light cannot pass through it. A radiograph of a rat was exposed fifteen minutes, yet the margin of the background is so dense that it remains white when the image is fully printed, and that without intensification of the negative.

Dr. Max J. Stern said that in making skiagraphs of the thorax, he placed the tube at as great a distance as thirty inches. He has found that the greater this distance, the more effective the result and the better the picture. The bad result in the case of burn reported, was brought about by having the tube very closely applied, but this was an exceptional case. In making skiagraphs in in cases of metatarsalgia, the plate was placed under the sole of the foot, as the erect posture is that in which most pain is felt in this affection. In reproducing hand or foot, it matters little whether the plate is above or below, because the distacne to be traveled is so small.

Dr. Stern suggested the possibility of making a plate that could be used immediately in emergency cases when one desires to use a plate once. He referred to a plate fashioned after the old ferrotype plate, and expressed the hope that in a short time a print will be available that can be used within two or three hours of the taking of the picture.

LIBRARY TABLE.

The American Text-Book of Physiology. By Henry Bowditch, M.D., John G. Curtis, M.D., Henry H. Donaldson, Ph. D., W. H. Howell, Ph.D., M.D., Frederic S. Lee, Ph.D., Warren P. Lombard, M.D., Graham Lusk, Ph.D., W. T. Porter, M.D., Edward T. Reichert, M.D., and Henry Sewall, Ph.D., M.D. Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Philadelphia, W. B. Saunders. Cloth, royal octavo, pp. 1052. By subscription $7.00.

That the American series of text-books issued in so handsome a form from the press of W. B. Saunders contains much of great value to both student and practitioner, is a fact patent to the most casual observer. No effort has been spared to make them up to the times in every respect, and each volume shows evidence of careful planning. The names appended as authors and collaborators and editors are in every instance of the highest standing, and the purchaser selecting any particular volume will not miss securing a valuable contribution to current medical literature. Heretofore works on physiology have been invariably the production of a single author, and the experiment of combining the work of different writers is a somewhat hazardous one, although doubtless possessing advantages. One of the most important of the advantages claimed for the method is that the student gains thereby the point of view of a number of different teachers. This would be true were the volume a composite production, but the style shows that it is instead a mosaic, each author treating merely of some special department of the science. How this plan can give different views of the subject, we are at a loss to understand since each author necessarily treats his subject from his own point of view, subject only to the revision of the general editor. The plan has the advantage of enabling publishers to place upon the market a work containing all the latest discoveries in any particular branch, since the work being divided among so many, less time is taken in the production of the whole. The volume under consideration has its greatest field of usefulness probably to the special student. The chapters on Chemistry of Digestion and Nutrition, Respiration, Animal Heat, and the Chemistry of the Animal Body, are particularly fine, and in themselves are complete expositions of modern knowledge in these departments. In many respects this is the finest and most helpful volume of the entire series thus far issued.

Miskel, a novel, by L. M. Phillips, M.D. Cloth, pp. 266, price 50 cents. New York, Baily & Fairchild Company.

One of the chief things claimed for this novel is that it covers so much ground and introduces the reader to so many different phases of humanity. It begins in the end, then goes back halfway to the beginning, then strikes the beginning, and finally completes the circle by again returning to the opening

scene. Had the volume been put from the press before Wilkie Collins published "The Moonstone," one might have been led to think that the latter had been suggested by certain parts of "Miskel." Hypnotism, black art, gold cure, murder, theft, all lend their aid to form blood-curdling situations, all revolving around a kidnapped girl, whose confiding nature leads her to adopt almost all the other characters mentioned as either father or mother.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. By George Frank Butler, Ph.G., M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Chicago; Professor of Materia and Therapeutics, Northwestern University, Woman's Medical School; Attending Physician to Cook County Hospital; Member of the American Medical Association, Illinois State Medical Society, Chicago Medical Society, Chicago Pathological Society, and Fellow of the Chicago Academy of Medicine, etc., etc. W. B. Saunders. Cloth, pp. 858, $4.00 net: sheep or half morocco, $5.00 net.

It is a difficult matter to present materia medica in a manner attractive to the average student in that so much of it must lie in a line of direct memorizing of technical matters associated with too little of a nature to awaken interest in the inquiring mind. The practicing physician of course would use his volume of materia medica solely as a book of reference, but to the student it is an indispensable adjunct to lectures and to him much depends upon its arrangement and treatment. This difficulty has always been recognized by writers and much thought has been expended upon the best plan for a work of this nature. It is conceded that materia medica, pharmacology and therapeutics are best treated in combination. The physiological action of a drug and other knowledge gained through experimental science in connection with the modes of preparing and administering it is far more attractive to the mind than the mere bald details of the appearance and origin of the drug. Professor Butler has based his volume upon the United States Pharmacopeia and United States Dispensatory, and it must be conceded that from the point of view of arrangement and treatment the work is better calculated to beget an intellectual and comprehensive understanding of this branch of medical science than the average work on the market. The writer has embodied in his treatment of the theme the deductions derived from his experience as a practitioner and instructor. The point of particular interest and one that is treated at remarkable length and great clearness, is that of the physiological action of drugs. The illustrations under each general class though diagrammatic are clear, conducing to a ready comprehension of the mode of action upon and through the various centers. It is perhaps unfortunate that the author has consulted the National instead of the United States Dispensatory since the latter is the acknowledged authority, even though the general arrangement of the National Dispensatory is the far more convenient of the two.

ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE THORAX. Arthur M. Corwin, A.M., M.D., Demonstrator of Physical Diagnosis in Rush Medical College; Attending Physician to the Central Free Dispensary. Second edition, revised and enlarged. Cloth, pp. 199. Price, $1.25 net. Philadelphia, W. B. Saunders.

This little volume first appeared under the title "Outline of Physical Diagnosis of the Thorax," and attained an immediate and wide popularity. The information is given in very concise and practical form, in almost tabular form, and the volume likely to be of service to the student, though as a rule the use of compends is to be deprecated as inculcating merely superficial methods.

DEFORMITIES, A TREATISE ON ORTHOPEDIC SURGERY, intended for practitioners and advanced students, by A. H. Tubby. M.S., Lond., F.R.C.S. Eng. Assistant Surgeon to and in charge of the orthopedic department Westminster Hospital; Surgeon to the National Orthopedic Hospital; Joint Honorary Secretary British Orthopedic Society, etc. Illustrated. London and New York. The Macmillan Company. Cloth, pp. 598, price $5.50.

There are no finer publishers in the country than the Macmillan Company, and the present volume is in respect of style and press work a gem. It is illustrated with 15 plates and 302 figures, of which 200 are original, taken especially for this work. Notes of over 100 cases are given very fully. As the author states in his preface, orthopedic surgery in England does not include all phases of diseases of the bones and joints, such as tubercular ascitis and arthritis, nor many congenital deformities, as cleft palate and hare lip;

but all that is touched upon is treated in the most masterly way. The volume is divided into the deformities of the spine, of the neck, chest and upper extremities, of rhachitis and the resulting deformities, deformities of the lower extremities, and ankylosis, congenital displacements, deformities resulting from cerebral and spinal paralyses, arthrodesis. Professor Tubby is master of his subject, is a clear and lucid writer, and has succeeded in formulating a reliable guide to medical men in the treatment of this difficult class of diseases. Perhaps a little more space could have been given to the consideration of reparative exercise in movements of the spine in such diseases as scoliosis, but that is an invidious criticism when so much that is of greater value has been so thoroughly expounded.

ROYAL INFIRMARY CLINIQUES. Alexander James, MD., F.R.C.P.E., Physician to the Royal Infirmary, Edinburg. Cloth, pp. 167. Edinburg, Oliver & Boyd. Price 5s.

Although clinical lectures in the United Kingdom are generally published in the various journals, it is far preferable to the student to have them in book form, as a matter of ready reference, and the fact that they can be so obtained frees him from the necessity, so irksome and disadvantageous, of taking notes, thus often missing the real point of the lecture. The volume of cliniques issued by Dr. James is excellent of its kind, and has been placed at a price easily within the reach of all. The plan should be adopted by other lecturers. Some of the lectures are very interesting, particularly that upon the two somewhat rare cases of liver cirrhosis in children.

OPHTHALMIC OPERATIONS AS PRACTICED ON ANIMALS' EYES. Clarence A. Veasey, A.M., M.D., Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic. Cloth, pp. 99, price $1.00. Philadelphia, The Edwards & Docker Company.

Apparently this is the first time the matter embodied in this little volume has ever appeared in print, the information having been hitherto only obtainable through an operative course or personal instruction. The various methods are described and the technic illustrated, many of the cuts being specially prepared for this work. There are a few instances of careless proof-reading, such as the miss-spelling of words like "seize," and some of the drawings are a little out of proportion. These, however, are minor faults, and do not interfere with the general usefulness of the work.

THE COMEDY OF SENTIMENT. Dr. Max Nordau. Cloth, 12mo, pp. 278. Price $1.50. Chicago, F. Tennyson Neely.

It is a highly improbable thing that a woman who made a practice of using the methods of a common courtesan to obtain a husband, should have been enabled to pursue her course so long as Frau Ehrwein without a more general suspicion of her chastity having been aroused. Possibly the reason for the lack of discovery is implied by showing her as thrown very little in the society of women, and men are proverbially fatuous where they are flattered. The unusualness of the character has, as it has been paradoxically expressed, "the attraction of repulsion." The means employed throughout this hunt for a husband, were those of flattery of the grossest and most physical type, and it seems an incongruity to attempt to reconcile in the same man the noble qualities that we are told Bruchstadt possessed, with the quite touching and implicit faith in his own irresistibility with women. Excessive vanity sometimes is an attribute of what is dubbed genius, but seldom goes with an otherwise well-balanced character, as we are told that Bruchstadt's was.

RECHERCHES CLINIQUES & THÉRAPEUTIQUES SUR L'EPILEPSIE, L'HYSTÉRIE ET L'IDIOTIE. Compte rendu du service des enfants idiots, épileptiques et atriéres de Bicêtre pour l'annee 1895; Par Bourneville Medicin de Bicêtre. Avec la collaboration de MM. Boncourt, Comte, Dardel, Dubarry, Leriche, Lombard, J. Noir, Pilliet, Ruel, Sollier et Tissier, internes ou anciens internes du service. Volume XVI, 80, LXXI, 254 pages, avec 31 figures et 8 planches hors texte. Paris, Aux Bureau du Progres Medical, 1896.

The contents of this interesting volume, which may be reviewed as a type of the work which has largely helped in giving France a foremost place in the literature of neurologic science, are divided into three parts. The first deals with general details relating to management, education, amusement, classification, statistics, etc.; the second with clinical and anatomico-pathologic matters; and the third with therapeutic questions. Among the subjects considered in the second part may be mentioned idiocy and epilepsy, dependent upon meningitis and encephalitis, idio-

pathic epilepsy and idiocy, congenital idiocy, and hypertrophic cerebral sclerosis complicated by meningitis. The therapeutic division of the work includes a report of three cases of unpredematous idiocy, subjected to thyroid therapy; a study of the action exercised by the thyroid gland upon growth and upon obesity; the report of a case of pronounced imbecility, probably congenital with muscular spasm and coprolalia, treated medico-pedagogically; and a consideration of the therapeutic employment of monobromated camphor. The text is amplified by means of a number of charts, cuts and plates.

THE RIGHT TO LOVE. Dr. Max Nordau. Cloth, pp. 169, 12mo. Price $1.50. Chicago, F. Tennyson Neely.

Possibly the best thing in this entire volume is the naive preface, a gem in its way. Beyond this point there is nothing new, only the old story of a weak woman mistaking satiety for a loss of love, and suffering herself to be led, through curiosity and vanity, into the toils of the typical lady-killer, who considers the married woman a safer prey than the ingenue. There is nothing new or especially attractive in the play, and there is not enough "go" to it to promise much for the stage, yet for this class of literature it is good reading. One is tempted to inquire, however, just the origin of the apparently low estimate Dr. Nordau has of women.

ELEMENTARY PHYSIOLOGY FOR STUDENTS. By Alfred T. Schofield, M.D., M.R.C.S., &c., Philadelphia, Lea Brothers & Co., 372 pages, two colored plates, 227 figures and diagrams. Price, net, $2, in cloth.

Chapter I, on the phenomena of life, discusses briefly the relation of physiology to biology, etc.; the fallacy of spontaneous generation; growth, development, decay and death as characteristics of organic as opposed to inorganic bodies, life and especially the different powers of animals and vegetables to extract nutriment from surrounding objects. The student's attention is then called, in an interesting manner, to the exterior and interior of the human body and the use and adaptation of various structures is explained so as not only to impart specific information, but to train the observation. The shape of the face as adapted to an upright position and not the prone attitude of quadrupeds, the looseness of the shoulder joint and the relative fixity of the joints of the leg, the development of the mouth as an articulating cavity rather than for chewing large masses of food, the arch of the foot and the mechanical advantage of the curves of the spine—these are some of the points which tend to arouse the student's interest and teach him to gather hints from appearances which the untrained mind would pass unnoticed.

The properties of the cell, the histological and chemical make-up of the body are concisely presented. The general arrangement of the rest of the book does not vary materially from that necessarily adopted by other physiologists. Perhaps because it is one of our own hobbies, we note with pleasure the little chapter headed "Two-fold Course of Food," and which emphasizes by its arrangement rather than because it supplies information omitted by other authors, the difference between the absorption of proteids, carbohydrates, salts and water, on the one hand, and of the fats on the other. A little memonic device is as follows: "The liver has five letters, five lobes, five ligaments, five fissures, five functions, five vessels and weighs fifty ounces."

The two colored plates are of various structures, uniformly magnified to 80 and 240 diameters, respectively. The best combination of eye-piece and objective for viewing the sections represented, is given in a foot-note, for English, Zeiss and Hartnack instruments.

The figure representing the abdominal organs in situ, is certainly wrong in locating the transverse colon two or three inches above the umbilicus and the stomach as descending no lower than the costal arch. We notice, also a misplacement of the words vein and artery, in diagram 83 of the double circulation of the blood. It is extremely unfortunate that metric units, now almost universally used in text-books that discuss scientific and especially chemical subjects, should have been ignored. For clinical as well as scientific purposes, the student must learn data as to excretion, etc., in grams and cubic centimeters and, while it is well enough to use also the older units, the translation should be made in the text.

The book is of convenient size and, it is scarcely necessary to say that the publishers have done their work well. In scope, it is adapted to an advanced academic course, one at a literary college or it may be used by

medical and dental classes, though not containing the amount of detail theoretically insisted upon by medical schools of the highest rank. However, it would certainly be an excellent manual for the junior student and would, doubtless, serve to carry a senior through any examination to which he would be subjected by his faculty or by a state board. On general principles, we believe it is better for a student to learn the essentials of a subject like physiology well, than to be instructed in so many details that he forgets most of what he has once learned.

KIRKE'S PHYSIOLOGY, by Baker, and Harris of England, with an American revision of the chapters on the nervous system by Charles L. Dana. New York: William Wood & Co., 1896; 847 pages; 500 illustrations; price $3.40 net.

The first chapters of this work consist of a treatise on the cell and its nucleus, including the subject of karyokinesis. Eighty pages, copiously illustrated and with many colored plates are devoted to histology. A brief chapter and an appendix afford a summary of physiological chemistry. The remainder of the book is arranged in the usual way. The descriptions are full without being verbose and are liberally interspersed with illustrations of organs, apparatus, tracings of pulse, respiration, excretion-curves, etc. The sections on urine and blood contain many valuable hints for clinical examinations. Diagrams are used to supplement actual representations of organs and apparatus whenever the student's conception of a function can better be appealed to, through the imagination. The publishers point with natural and fully justified pride to the chapters on the nervous system as being unusually advanced and thorough. Quantitative statements are made in decimals, throughout the work. We note that some popular errors are perpetuated in the section on voice. Thus, it is said, "The sound of the vowels, even when mute, has its source in the glottis," and we are told that the vowel-sounds in *can* and *dog* cannot be prolonged. A very obvious mistake, even if the word *dog* is correctly pronounced as it rarely is. The writer of the section is evidently misled, both by our faulty alphabet and by the expressions "long" and "short" as applied to vowels.

The publishers are to be complimented on having eliminated certain Anglicisms which are quite apt to annoy the American reader of an English book. We are happily disappointed in not finding *whilst*—which is quite as bad as what is pronounced *wunst*—or the *our* in such words as *labor*, or *shew* instead of *show*, all of which insular peculiarities have been allowed to remain in some excellent text-books offered to the American profession. We take pleasure in recommending this work, not only to undergraduates but to physicians who wish to keep abreast of modern discoveries in that science which ought to underlie the arts of diagnosis and therapeutics.

VEST POCKET MEDICAL DICTIONARY, by Albert H. Buck, M.D. New York: William Wood & Co.; 1896; 527 pages; price 85 cents, net.

The names of drugs and many special anatomical terms are excluded so as to bring within small compass, the terms which one is likely to meet in medical literature. The book is clearly printed and is as complete as possible, considering its intention. Pronunciation is not given, except when reasonable doubt as to accent, etc., might exist and not even then, in the case of proper names. The binding is of flexible brown leather and the general appearance is neat while modern terminology seems to have been fully embraced.

"The food of the Anglo-Saxons," by Dora M. Morrell, is the title of the leading article in the November issue of *Table Talk*. Miss Cornelia C. Bedford gives an exhaustive and valuable article on "Bread;" Miss E. Marguerite Lindley on "Dress and Its Effect upon Health and Mind." Mrs. Burton Kingsland tells of "Hospitality in Germany," and Mrs. M. C. Myer describes the "Chinese Woman of High Caste," and her home life.

CANCER OF THE UTERUS—

℞

Sodium chlorate	2 parts.
Distilled water	10 "
Syrup of orange flowers	3 "

M. At first two "spoonfuls" (whether teaspoonfuls or tablespoonfuls is not stated) are to be taken in twenty-four hours, and the daily amount is to be increased gradually to eight "spoonfuls."

The following powder is applied on intracervical tampons:

℞

Sodium chlorate, Bismuth subnitrate, } of each . .	2 parts.
Iodoform	1 part.

M.—*Boucher of Bonen.*

PERISCOPE.

NEWS AND MISCELLANY.

In regard to mixed clinical classes, the announcement that Mr. Jonathan Hutchinson has been compelled to exclude ladies from his popular clinical afternoons on account of the unwillingness of male patients to undress before them is full of significance. It may be taken as evidence that the British male out-patient is not yet acclimatized to the presence of medical students of the other sex and his feelings have to be reckoned with, especially in a private clinic, at which his attendance is purely an act of grace. Why the modesty of the British working man should be so much more susceptible than that of his wife or sister, it is difficult to conceive, but he has yet to learn that science is asexual and regards the malady and not the man. It is greatly to be regretted that this course should have been deemed necessary, for it places yet another obstacle in the way of the acquisition of clinical knowledge by women, Doubtless, in the near future, the public will become as accustomed to women as clinical observers as to women cyclists, and will abandon foolish protests against the one as they have ceased to objurgate the other. There is no valid reason, however, why some prominent medical woman should not forthwith inaugurate a clinic of her own at which female patients will object to undressing before men. That would be the *reductio ad absurdum.—Medical News and Circular.*

Pruritus vulvæ must be vastly more frequent in the United States than in the Eastern hemisphere, says the *Medical Press and Circular*, judging from the fact that one hardly ever glances through an American medical journal without coming across the most harrowing accounts of its severity and refractoriness to treatment, along with a series of formulæ destined to relieve or cure, according to the temperament of the writer. It might be inferred from the unceasing activity of obscure therapeutists in this direction that none of the remedies hitherto recommended have attained the object in view. We are not in possession of sufficiently trustworthy data to enable us to discuss the etiology of this affection as it affects American women, but it would be interesting, as well as instructive, to know, on good authority, whether the men of that hemisphere experience, *mutatis mutandis*, any analogous morbid symptoms. Everyday gynæcological practice over here does not reveal pruritus vulvæ as a common or intractable affection, so that an explanation of its greater incidence on the other side of the Atlantic must be sought in ethnological or climatological peculiarities, unless, indeed, there are more individual reasons associated with the prevalence of a highly-strung, quasi-neurotic temperament. Perhaps some of our trans-Atlantic *confreres* will throw a little light on this subject.

When the breath becomes ammoniacal during the progress of any disease, of the urinary apparatus it is a tolerably sure warning that uremic poisoning and grave complications are at hand.—*N. Y. Medical Journal.*

In Albuminuria the hot-air bath fills two indications(Carrieu in *Med. et Chir.*)it relieves the kidney by the abundant sweating produced, and it regulates the organic interchanges. The immediate physiological effects of this treatment are shown by a sensation of heat, which is not at all disagreeable, and an abundant sweating accompanied by acceleration of pulse and elevation of temperature. Respiration is not at all affected. No untoward symptom is induced except, during the first baths, some palpitation and headache, which last about an hour; sweating is the only symptom that persists for a length of time.

The therapeutic effects are manifested by changes in the urine, the quantity of which diminishes on the day after the bath, and a rather intense polyuria which supervenes on the following day: the density of urine is in inverse proportion to its quantity. The urea scarcely undergoes any modification. The rate of albumen greatly diminishes on the day after the bath, but is increased on the following days, although it does not return to its former quantity. Gradually, however, this diminution becomes persistent, and finally there is complete disappearance of the albuminuria.

Hot-air baths are indicated in cases of subacute and chronic nephritis in epithelial forms, but are contra-indicated in the vasculo-connective forms and when arterio-sclerosis, a skin disease or a nervous condition exists.—*Medical Age.*

The symptoms of cerebral syphilis are, according to Dr. George J. Preston, in the *Journal of the American Medical Association*, very varied and the history of the primary lesion is often uncertain. Moreover, the interval between the primary lesion and the brain trouble may be so long as to make the connection between the two uncertain. Meningitis from syphilis is nearly always chronic, the symptoms coming on gradually, the first one being headache, then there may be paralysis of the third pair of nerves, or the fourth or sixth, then there may be hemianopsia. The most common form is great mental depression, or rather apathy. We should make our diagnosis and then treat vigorously. This method of treatment is much more used in this

country than in Europe, hence the better results obtained here. He has given as much as 300 to 500 grains of iodid of potash a day, and we are justified in doing this. He thinks that mercury very materially helps the iodid. Dr. E. N. Brush thinks that the interval between primary lesion and the brain troubles is much longer than Dr. Preston intimated. In one case he has given 900 grains of iodid of potash a day. He does not believe in the therapeutic test and does not think that because a patient can take large doses of the iodid that it should be treated as specific; some syphilitics can not take large doses while those who have never had the disease can often stand very large doses.

The following subscriptions to the Rush Monument Fund have been received:

1896. DATE.	FROM.	AMOUNT.
April 17,	Dr. J. W. Hoff, Pomeroy, O.	$ 5.00
" " "	T. J. Acker, Croton-on-Hudson, N. Y.	5.00
" 30,	Peoria City Med. Soc. (through Dr. O. B. Will), Peoria, Ill.	25.00
" "	Dr. D. W. Cathell, Baltimore, Md.	1.00
" 2, "	W. T. Cathell, Baltimore, Md.	1.00
May 9, "	J. P. Getter and others Mifflin Co., Pa.	3.00
" 21, "	E. H. Bishop, Towson, Md.	1.00
June 10, "	C. B. Burr, Flint, Mich.	10.00
" 29 "	W. H. Hardin, Anderson C. H., S. C.	1.00
" "	Herkimer Co. Med. Soc. (through Dr. G. Graves, Herkimer, N. Y.	25.00
Sept. 30,	Dr. J. W. Grosvenor, Buffalo, N. Y.	1.00
" "	Interest to date	81.00
		159.00
	Before Reported	3727.39
		$3886.39

GEORGE H. ROHÉ,
Secretary.

The risk of inducing habituation from the use of morphine in the insomnia or neurasthenic persons has led to its being discarded in the treatment of this class of cases, unless indicated by the presence of severe pains. Besides the necessity of resorting to the opiates no longer exists at the present day, in view of the large number of hypnotics in materia medica. Among these many authorities in this country and Europe regard sulfonal as ideal. The sleep produced closely approaches the normal, being calm, restful and refreshing, and if the remedy has been properly administered in an abundance of some hot fluid, as water, tea, milk, etc., it is free from after-effects. In a paper recently read before the Ontario Medical Association, Dr. E. E. Harvey, (*Amer. Med. Surg. Bulletin*, September 19, 1896,) stated that in the administration of hypnotics he had the best effects from sulfonal. This was especially true in those cases where hysteria had supervened on the neurasthenia. The powder—a dose of from ten grains to twenty-five grains—being given according to the severity of the case, should first be dissolved in hot water, the solution being then poured into half a cupful of hot milk, and then administered.

The twentieth anniversary of the publication of the *Journal of Inebriety*, and the twenty-sixth year of the Association for the Study and Cure of Inebriety, was celebrated by a memorial meeting at the New York Academy of Medicine, November 20th. The following addresses and papers were presented: "A historical review of the first meeting of the association, and its papers and discussions," Lewis D. Mason, M.D., Brooklyn, N. Y.; "*The Journal of Inebriety*, its organization and growth, the early and later literature," T. D. Crothers, M.D., Hartford, Conn.; "The first asylum for the cure of inebriates and its founder," Charles H. Shepard, M.D., Brooklyn, N. Y.; "The first State asylum for pauper inebriates and its work," M. E. Hutchinson, M.D., Fopboro, Mass.; "The first efforts to treat opium cases in asylums," J. B. Mattison, M.D., Brooklyn, N. Y.; "The first home for the transient case of inebriates," V. A. Ellsworth, M.D., Boston, Mass.; "Empiric and charlatan efforts to cure inebriates for the past quarter of a century," N. Roe Bradner, M.D., Philadelphia, Pa.; "The history and influence of alcohol in medicine in modern times," I. N. Quimby, M.D., Jersey City, N. J.; "The origin and growth of asylums for inebriates in Great Britain," Norman Kerr, M.D., London, Eng.

LOCAL TREATMENT OF BALDNESS—

℞

Tinct. cantharidis . . . . . 4 fl. drs.
Tinct. capsici . . . . . 1 fl. oz.
Ol. ricini . . . . . ½ fl. dr. to 1 fl. dr.
Alcoholis, q.s. ad . . . . . 4 fl. ozs.

M. Sig.—Rub thoroughly into the scalp.—*Pharmaceutical Era.*

INSECTS' STINGS AND BITES—

℞

Acetic Ether . . . . . 5 parts.
Eucalyptol . . . . . 10 parts.
Eau de Cologne . . . . . 10 parts.
Tincture of Pyrethrum . . . . . 50 parts.

M. Dilute with four or five times its bulk of water and apply as a lotion.—*Practitioner.*

THE
MEDICAL AND SURGICAL REPORTER.

No. 2074. SATURDAY, DECEMBER 5, 1896. VOL. LXXV—No. 23

ORIGINAL ARTICLES.

THE TREATMENT OF ALCOHOLISM.

[No. II.]

J. M. FRENCH, M. D., MILFORD, MASS.

Two chief objects are to be aimed at in the medical treatment of alcoholic inebriety:

First, to remove from the patient entirely the diseased appetite or unnatural craving for alcoholic drinks, and make it as easy for him to abstain from them as if he had never used them. This constitutes the cure of alcoholism according to the popular notion, based upon the teachings of Keeley and his imitators, who recognize in inebriety only "the cry of the nerve-cells for alcohol," and pay little or no attention to the more radical and permanent changes which the drug may have produced upon the system.

Second, to remove, in so far as possible, the morbid conditions brought on by the use of alcohol, improve the nutritive functions, build up the general health, and restore the stability of the nervous system. This is a much slower process than the first named and cannot be fully accomplished in the short period which is usually devoted to the active treatment of inebriety; requiring for completion months or even years, instead of days or weeks.

If, however, the treatment of the disease of alcoholism ceases with the removal of its chief specific symptom, and before the patient has been fully restored to health, there is great danger that he will not continue in the way which has been pointed out to him, but will relapse into his old habits and bring about a return of the old disease. Just as pain imperatively demands opium in one who has often felt its pain-relieving power, so does debility call loudly for alcohol in those who know by frequent experience the sense of strength, elasticity, and well-being, which it brings. Indeed one of the chief sources of danger to a cured inebriate is a lowered standard of physical vitality, especially during that important period in which he is reconstructing his relations with himself and the world, forming new habits, and taking his place in society as a sober man and a good citizen.

Hence the practical necessity of what Dr. Mattison calls, in relation to mor-

phine patients, a post-active period of treatment, during which the patient, while relieved from the necessity of drug-taking, should be surrounded by favorable circumstances and hygienic conditions, in which undue nervous, mental and muscular strain must be avoided, the body built up, the mind strengthened and the man habituated to live without alcohol. It would, no doubt, be well if these results could be secured while the patient was yet under the eye and care of his physician; but as it is the universal testimony, even of those who most strongly advocate this lengthened period of institutional treatment, that it is practically impossible in the great majority of cases to keep patients for a sufficient length of time to bring about this result, except by legal commitment, and as it is equally impossible to strengthen a man's will-power when he is denied the power of choice, it would seem to be the part of wisdom to make the best possible use of the time which is voluntarily allowed for the treatment of this disease, and then to impress upon the patient as strongly as may be the course which he ought to pursue in future—and leave with him the responsibility of following it, as we are obliged to do in other cases.

Another important thing to accomplish in this connection, and one upon which the final result very largely depends, is to arouse the moral nature of the man, awaken in him a desire for a different kind of life from that which he has been living, encourage him to change his old habits and associations, and especially to strengthen his will-power to resist all inducements, from whatever source they may come, to return to his old practices. It is only when this can be brought about that permanently good results can be depended upon. Herein drunkenness differs radically from most other diseases. The distinction arises from the fact that drunkenness is not only a disease, but a vice as well; or to speak more accurately, it is a disease resulting from a vice. Indeed it calls for treatment from the threefold point of view of vice, habit and disease, and no method of dealing with it will ever accomplish satisfactory results, which fails to recognize its composite nature.

This is no new view of the case, let it be remembered, but one which was taught a hundred years ago by Dr. Rush, the great pioneer in this field. "Religious, moral and physical remedies," he says in speaking of the drunkard, "should be employed for the complete and radical cure of his disease." With all our added knowledge in this direction, we cannot improve upon this general statement to-day.

It remains to be said in this connection, that there are three classes of cases in which the result is more than doubtful, and from which the relapses mainly come. They are, those in which the man was originally a degenerate, mentally, morally and physically unsound and unwholesome, before ever he used alcohol; those in which the degenerative effects of alcohol have become too deeply rooted to be removed, and are too important to be overlooked, having produced serious organic disease; and those in which moral depravity dominates the man, and there is no real desire to escape the bondage of drink. In these cases a return to the drug is well-nigh certain.

In order to secure the best results from the remedies which were discussed in my previous paper*, as well as other measures which have been alluded to, or may be spoken of hereafter, it is necessary that they should be mixed, as Opie mixed his colors, "with brains." No unvarying formulæ, no mere routine methods, no treatment *en masse* will answer the purpose. The very first requisite for success is individualized treatment. The temperament, idiosyncrasies, history, and concurrent maladies of each patient must be considered. No two persons are alike, or require the same management. No single case will be benefited by receiving the same treatment throughout all its varying stages. Patent medicines, home treatments, and secret cures all fail of accomplishing the best results.

The first stage of the treatment in ordinary cases, is that in which the patient either drinks or desires to drink alcohol. The progress of this stage is marked by three objective points: the disappearance of the morbid craving for alcohol; the return of the normal appe-

* Medical and Surgical Reporter, Vol. LXXV, No. 11, page 321.

tite for food, with the power of digesting and assimilating it; and the coming of natural sleep, to restore the nervous energy and balance. When these three results have been secured the patient has taken his first long step towards recovery.

The change which takes place in a man when his abnormal craving for alcohol is leaving him is a very real and very wonderful change. While the desire continues the man is gloomy and morose, or fault-finding and discontented. Nothing suits him. His temper is uncertain. His word cannot be depended upon. He has no normal appetite, and his stomach stubbornly rejects food. His hand shakes, his eyes are "shifty," and his voice is hoarse and rough. All night he lies tossing and groaning, grasping at phantoms and shrinking from demons. By every test, mental and physical, he is a sick man. But as the craving leaves him his eye brightens, his skin clears up, the bloat goes down, and the redness leaves his nose. His appetite and digestion return, his temper and disposition improve. He sleeps sweetly and rises refreshed. In his face shines the light of a new hope, a new confidence in himself, a new purpose in life, replacing the look of despair and disgust which showed there but a few days ago. Then he felt himself to be suffering from the power of a disease which he could not remedy, in the grip of a habit from which he could not free himself, hopeless, helpless, despondent, a slave. Now he sees health coming back to him, hears the sweet voice of hope, is filled with courage, and feels himself free. Henceforward slowly but surely his nervous system regains its balance, and he stands once more a man among men, master of himself.

There are those, it is true, who would claim that this change is only a delusion, the result of a mental impression, an idea. He has been made to believe, they say, that he would be cured, and cured he is. Some hypnotic influence, according to these authorities, has been exercised over the drunkard, with the result that he has been made to think that he has lost his craving for spirits.

Now every physician knows how great is the power of mind over matter. Perkins' tractors, mesmerism, spiritualism, Indian doctors, seventh sons of seventh sons, and quacks of high and low degree all bear witness to the ease with which men are deluded, and their haste to delude others. But fraud has ever certain ear-marks, which are wanting here. Inebriety is as real a physical disease as is neuralgia, or dyspepsia, or paralysis. The remedies which cure this disease at the hands of one member of the medical profession cure it at the hands of every one who uses them wisely and rightly. They cure, as I have already shown, by virtue of well-known properties, which have been made use of for centuries. The faithless and doubting are affected in the same way as the expectant and impressionable. Strongest argument of all, in a large proportion of cases the result is permanent. And this proportion is larger when patients are treated by plain everyday methods on strictly professional lines, than when the element of mystery is made use of to bolster up a secret cure. None of these things are true of frauds, fakes, or humbugs. None of them are the characteristics of mental delusions. They are not the results of mind-cure.

The time occupied by the first stage of treatment varies greatly in different cases. It may be a few days only, and it may be several weeks instead. In the majority of cases it does not exceed one week. Advanced functional derangements often delay its progress, and may require special treatment for their relief before the central symptoms will yield; while serious organic lesions, especially of the heart, brain, or kidneys, either contraindicate the treatment wholly, or call for great care in its use, and require a longer time for its completion.

In a system saturated with alcohol, if a cure is to be effected, all the eliminatives must be kept active. The compound cathartic pill of the pharmacopeia, or some similar remedy addressed to the liver and gastro-intestinal tract, is almost a *sine qua non* at the beginning, and may need to be frequently repeated. From first to last, the bowels should move freely. The kidneys, too, should be kept active. Hot baths will aid elimination from the skin, and promote a cure. Sunshine, pure air and moderate physical exercise, aid in the building-up process. Violent physical, or severe

mental labor is injurious in most cases.

It is my usual custom to allow patients to drink whiskey, or that form of alcoholic to which they have been accustomed, so long as they desire it, and in sufficient quantity to keep them contented. But every man should be made to understand that the less liquor he drinks, the sooner he will be cured. It stands to reason that if a man wants to be cured of the liquor, or any drug disease, the longer he pours down the drug the longer it will take to cure him. Nevertheless, since nearly all patients desist of their own accord in a very few days, the moral effect is thought to be better than if they had been deprived of liquor while yet they craved it. It is a great satisfaction to a man to realize that he can keep a bottle of liquor in his room without any desire to drink it. Besides this, very few patients would voluntarily undertake the treatment if they knew that they were to be deprived of their drink at once. What they are seeking, is to be deprived of the desire for it instead. In a very few instances, however, the amount of liquor taken is so excessive as to practically neutralize the effects of the remedies given; and in these cases it may become desirable to restrict the quantity allowed, and limit the time during which it is permitted to be taken. When this is done, the system responds promptly to the usual remedies, and the desire is soon replaced by disgust. It cannot, however, be too strongly impressed upon both patients and the public, that the cure of alcoholism does not consist in putting a man in such a condition that he cannot drink alcohol, but only in one such that he does not need to drink it. The man who is determined to drink as long as he can and as much as he can get, while under treatment, is very likely to develop into the fool who can be relied upon to take a drink sooner or later after the treatment is finished, just to see whether he can keep it down or not.

On the other hand, I am bound to say that in those cases where the excessive drinking was caused by excessive craving, when that craving was removed I have met with some of the best results I have known. It is the man who has drank hard and suffered bitterly, who has known the depths of the degradation to which liquor reduces its victims, who when cured is most anxious to prevent a recurrence of the disease, and most careful to avoid temptation. A burnt child dreads the fire.

Save in exceptional instances, it is impossible to treat inebriates with success in their own homes. A drunkard cannot be depended upon to follow the plainest and simplest directions as to taking medicines; rather he can be depended upon not to follow them. He cannot usually be controlled by the members of his own family. However fairly he may promise, the fact remains that he is a drunkard and lacking in the power of self-control. It is therefore essential that he should be under the care of a physician, and subject to his control by day and by night. During the first stage he should be constantly under the eye of a trusted attendant, who must act as nurse to the sick and companion to the well, while at the same time he is prepared to be master of both, should occasion require. He must see to it that the medicines are administered at proper times, liquors furnished when called for, subject to proper restrictions, and special foods supplied to those whose weak stomachs and recent excesses will not permit them to sit at the common table and partake of the common food. For this purpose Valentine's meat juice, bovinine, bovox and malted milk are valuable and convenient forms. He must also guard against secret drinking,—since the treatment is modified by the amount of liquor taken—and break up any other bad habits and practices. Licentiousness in particular is often—even usually—associated with strong drink in bringing about the drunkard's evil condition, and no permanent cure of either can be looked for until both are abandoned.

A Serious Case.

Late one evening a doctor received a note from a couple of fellow-practitioners, saying: "Pray, step across to the club. We are one short for a game of poker." "Emily, dear," he said to his wife, "I am called away again. It appears to be a very serious case, for there are already two doctors in attendance."—*American Druggist.*

A NUTRIENT FOR IMPAIRED NERVE-TISSUE.

HUGO ENGEL, A.M., M.D.,* PHILADELPHIA.

About two years ago lumbarin was first introduced to the medical profession. Nearly 200 physicians have since tested the drug, and the reports are before me, which embody the results of their practical experience. A remedy which is no proprietary article, nor in any way protected by law, but a legitimate preparation of known composition[1], quickly takes its place among the medicinal substances in daily use, provided it produces the effects ascribed to it and claimed for it. There is but one restriction to the general employment of the drug in question; it is dispensed only upon physicians' prescriptions, and its sale over the counter is strictly prohibited, the laity being warned by a special notice on the label, not to use the medicine except under the directions of a physician.

Lumbarin has proved itself a nerve nutrient *par excellence*; its effects are permanent, and not a single injurious symptom has ever followed its administration in the many cases in which it has been given uninterruptedly for periods varying from one month to two years. Whether its success is due to the organic extracts it contains, or to their combination with pure phosphoric acid, I cannot determine at present with any certainty, but the results are there, and any confrère may easily convince himself by using the remedy on himself for the space of but one week.

The following may be looked upon as facts well established. Lumbarin brings about the most favorable results, if taken in doses of two and one-half fluid drachms three to four times daily, largely diluted in sweetened water and given immediately after meals, never on the empty stomach. The addition of syrup of orange peel bestows upon it a very pleasant taste. But the dose mentioned must not be administered at once; it is best to begin the treatment with half a teaspoonful or even less, and to increase the dose by fifteen drops every day or two, until the larger dose has been reached, which is then continued during the whole course.

Here the following rule holds good—between the ages of twenty and forty the larger dose should be persevered in for from three to six weeks; patients past the latter age may rely upon the continuance of the improvement gained only by adhering to the remedy, just as we are kept in a state of good nutrition only so long as we take care to provide for a steady supply of food. Either from overwork, from injuries received, or from constitutional defects, some centres of the nervous system seem to become exhausted more readily and sooner than others; this occurs normally with advanced age; they are not destroyed, perhaps do not become diseased, but their nutrition and with it their functions are interfered with. Supply them with the nutrition needed and the functional activity will soon revive.

Thus it is with the male sexual apparatus. Although its function should persevere, even if in a diminished degree, up to high old age, abuse in youth, the diseases to which this organ is specially liable, and many other causes exhaust the cerebral and spinal sexual centres. In uncomplicated cases, i. e., those in which there are no anatomical changes, no destruction of tissue and no other demonstrable causes, lumbarin will re-establish the function, impaired or lost. In old age, however, as above referred to, this restoration will remain effective only during the continuance of the remedy; so long, therefore, as the special nutrition is supplied. At a younger age it is only necessary to re-

*Fellow of the American Academy of Medicine; Professor of Nervous Diseases and Clinical Medicine, etc.

[1]Exact composition of lumbarin:

℞

Extr. guaranae	fl f ℥ iv.
Tinct. nucis vomicae	f ℥ iii.
Acidi phosphorici puri	f ℥ vii.
Extr. medulla spinali ; arietina et testiculis v. a. sterilisati	gr. cclvi.
Syr. cort. aurant	f ℥ iv.
Aquae dest. q. s. ad	f ℥ xvi.

M.

awaken functional activity; the nutrition of the sexual centres then goes on of its own accord, without any further artificial aid, in unison with that of the rest of the body.

I have not heard of a single uncomplicated case, in which, within at least one month, the functional vigor of the sexual organs has not been re-established under lumbarin. An existing stricture or the underlying disease of the brain or spinal cord, probably because concealed or obscure, is often overlooked, but with the removal of such a cause, if at all remediable, the effect of lumbarin at once begins to assert itself. So reliable is the action of this medicine, that it is useful for diagnostic purposes. If in apparently simple cases the desired result is not obtained within a reasonable time, or if within two weeks not the least improvement becomes apparent,—a decided increase of force in expelling the urine always being the first favorable symptom—the case is complicated by a morbid condition not yet detected.

And though even in cases of locomotor ataxia I have seen sexual vigor redevelop under lumbarin, we must not expect too much. One confrère informed me, that he, aged sixty-nine, had suffered recently from two apoplectic seizures in quick succession, and that, excepting a right hemiplegia and some aphasia he had recovered his usual health (?), but that after one month's trial with lumbarin he was sorry to state, that the remedy had thus far produced no effect!! He should have rejoiced at the want of success, because the excitement of the sexual act under such conditions could have but hastened his end.

Very favorable has also been the general effect of the remedy on the whole nervous system. Mental energy is augmented; after its use for some weeks all functions appear to act with renewed vigor; sleep improves, and any feeling of lassitude and malaise, that may have been present, disappears. It is probably to this general effect that the remarkable results of lumbarin in cases of the opium habit have to be ascribed. After the remedy has been taken in such cases regularly for months, in preference always at the times of the administration of the opium or its alkaloid, such patients may abstain from the narcotic altogether or take it in large doses; they feel neither its withdrawal nor any effect from increased doses. Lumbarin, indeed, seems to make them opium-proof. Experience has shown, that in these cases it is best to give lumbarin in full doses for a month and then to begin the steady withdrawal of the opium, while continuing the lumbarin. The latter gradually establishes an immunity against the narcotic, just as the swallowing of the snake virus seems to protect the individual, thus made immune, against the venom of the snake, only that here cause and effect depend upon different means. The reflex excitement and the other annoying phenomena, which usually prevent those accustomed to opium or its preparations from relinquishing the pernicious habit, never make their appearance after lumbarin has been taken for a period of time sufficient to produce its constitutional effect.

The length of that period seems to differ greatly in different individuals and to depend upon idiosyncrasies, the duration of the habit, the dose of the narcotic to which the patient has accustomed himself and the manner of its application—the hypodermatic method offering greater resistance to the treatment, than the internal administration of the drug. One observation here has been universal; those employing morphine subcutaneously, when lumbarin has once taken a full hold of their system, are enabled to substitute the internal use of the alkaloid without their incurring any suffering, because of the change in the method of employing the narcotic.

This remarkable effect of lumbarin in cases of the opium habit was accidentally discovered by a well-known physician, himself subject to it. He had taken lumbarin for a year because of its aphrodisiac properties—in these cases the sexual functions are completely dormant—and because of its general tonic effect, when one night he broke his hypodermatic syringe and had to take his accustomed dose of the narcotic internally. To his great astonishment the result seemed to be the same; being a man of keen perceptive powers he determined to try to omit the morphine altogether and those acquainted with the habit will imagine his pleased surprise at the absence of all

annoying symptoms on the withdrawal of the alkaloid. That man to-day is in perfect health, he has often taken in my presence six grains of morphia internally without showing the least effect, and he can omit the drug for so long a time as he pleases. He is still continuing lumbarin for its general invigorating influence.

In beginning cases of softening of the brain due to embolism, the intellect improves greatly under lumbarin, and in some very early cases the mental activity is restored completely. In chronic spinal affections some of the symptoms ameliorate; if there is no paralysis of the vesical sphincter, micturition becomes much easier, but, as a rule, all organic diseases of the brain or spinal cord are benefited but little, if any, by lumbarin, whose good effects can be relied only in cases of functional disturbance. It does not remove diseased conditions, but only provides with special nutrition centres, whose functional activity has been slumbering.

If a healthy person takes the remedy, an unusual activity in the male in the functions of the sexual organs and a feeling as if the individual was under the influence of a mild stimulant, are observed by the end of a week. A decided increase in the force of expelling the urine may be looked upon as a good omen; in all favorable cases this symptom shows itself by the fourth or fifth day of treatment. Lumbarin is no elixir of life, it simply strengthens the sexual organs, produces a state of immunity in cases of the opium habit and acts in many cases as a special nerve tonic. But while limited, the effects of the drug in its own field of usefulness and in uncomplicated cases are certain.

In conclusion it may be well to mention that its wholesale manufacture and improved methods have so reduced the cost of production, that lumbarin does not prove more expensive to the patient than the average prescription given by the physician. The greatest trouble we experienced was in obtaining at the time wanted a fresh supply of spinal cord and testicles. Then the great skill needed and the difficulty and loss of time met with in the preparation of the extracts formed another obstacle. When we first used it at the hospital it cost us between four and five dollars a bottle. That was the reason of applying to a chemist to manufacture it wholesale. Now a supply enough for eight days cost wholesale one dollar, and the manufacturers make seven cents on it. Whether they will continue long to bother with it I do not know. The whole is for the benefit of the profession and not for the pocket of any individual.

THREE CASES OF TYPHOID IN ONE FAMILY.

J. B. KEYLOR, M.D., Cochranville, Pa.

In June, 1895, Mrs. C., age 50, occupied a cottage at Atlantic City, where it was afterwards learned a patient had died the previous season of typhoid fever. In four weeks Mrs. C. took the fever, and ten days later was brought to her home in the country. On the same day, August 6, I was called to see her. The fever was of the somnolent variety and ran a slow course, lasting in all three months. The temperature ranged from 101° to 103° F.; pulse, 90 to 100. There was not much suffering, but marked weakness and drowsiness throughout the disease. The patient took little notice or interest in herself or her surroundings. Diarrhea was at no time troublesome. One night during the sixth week I was hastily called to find the patient rolling in agony with cramping pains in the bowels. I gave instant relief by a hypodermatic injection of morphia, but in a few days the nurse called my attention to the fact that when the bowels moved a large quantity of fecal matter came out the vagina. On examination a vagino-rectal fistule, one inch in diameter, was found.

The typical petechiæ appeared the second week of the fever and continued eight weeks, sometimes being quite abundant. The disease ran a course of three months in spite of all efforts to break up the trouble. The points of peculiar interest in this case are:

(1) The very great and prolonged apathy amounting almost to unconsciousness.

(2) The perforation of the lower bowel into the vagina causing a fistula large enough to admit the finger.

(3) The prolonged recurring of the rash amounting in all to about sixty days.

(4) The great emaciation or physical waste, which was the primary cause of the perforation of the vagino-rectal septum. It was also shown by the loss of the hair and all the finger and toe nails.

Mrs. C. made a good recovery, even to the replacing of the nails and the closing of the fistula. The treatment and diet was that usually prescribed in such cases, care being taken to avoid all the coal tar preparations on account of the cardiac weakness. The fistula was closed by the local application of caustic and antiseptic injections.

Case II.—After coming to her home Mrs. C. was first nursed by her oldest daughter, Mary, aged twenty-five years; single. In three weeks the daughter took the fever, but in the opposite extreme from that of her mother. Her temperature was from 103° to 104° F.; pulse full and bounding, patient noticing the minutest particulars. Diarrhea, profuse and continuous. Spots appeared on the fifteenth day, and by the twenty-third day were so abundant as to resemble rash of measles. This was her time for menstruation, which did not occur, but a very severe hemorrhage of the bowel took place. So near as could be measured three pints of blood were lost in two hours. The lips and hands became bloodless, features pinched and drawn. No pulse could be felt in either wrist, a cold sweat coming out on the hands, arms and feet. On arriving I succeeded in arresting the hemorrhage, and by active stimulants and artificial heat revived the patient and by next morning she was able to speak. The next day Dr. Wharton Sinkler, of Philadelphia, saw the patient and her mother in consultation. At his suggestion granules of strychnia one-fortieth of a grain each were substituted as heart tonic instead of nux vomica strychnos. The granules are pleasanter to take and we can regulate the quantity of the drug better than by the tinctures. The daughter's temperature fell to 102° F during the hemorrhage and in a few days all the rash disappeared.

Twenty-six days later the temperature rose to 103½° and the rash came on again as abundant as at first. Twenty-eight days after the first hemorrhage or what would have been the next regular menstrual period, a second hemorrhage equal in quantity and effects came on. Nothing but immediate death seemed possible, but the same remedies brought about the same happy result, and the patient rallied. This is another evidence to the fact that in no other disease do patients approach so near the grave to return to health as in typhoid fever. From this time on she made a rapid recovery. The remarkable features of this case were the abundant rash and the profuse hemorrhage from the bowels occurring both times at the menstrual period, also the great emaciation, which was beyond description. During the twenty-eighth week of the disease, while blowing the nose, the nasal septum came out in the handkerchief and has never been replaced.

The treatment of this case was: Acetanilid and quinine to reduce temperature, listerine as antiseptic; digitalis and strychnia to sustain and control the heart's action; absolutely milk diet. Hemorrhages were each time controlled in half an hour after my arrival by giving one teaspoonful of turpentine at once, followed by ergot and ferri chloridum, stimulants, whiskey and aromatic spirits of ammonia.

Case III.—When Mary became ill the nursing fell upon the remaining daughter Nettie, aged twenty-one, single, in robust health. In three weeks from the time she became nurse Nettie was taken ill with the same disease, which ran a regular course of about thirty-five days with no special points of interest. Two sons and the husband, who assisted the nurses, had diarrhea, headache and slight febrile symptoms, lasting in each case about one week. I wish to say here

that I know of no home better located for fresh air and good drainage. Everything about the premises was examined and found scrupulously clean. No death had occurred in this house for over fifty years, although occupied by only two different families in that time. The best known hygienic measures were adapted from the start of this fever. Platts' chlorides, chloride of lime, carbonic acid, etc. were freely exposed and sprinkled about the rooms. All stools, bloody cloths, etc. were buried and disinfected at a safe distance from the water supply.

In reviewing these cases one notices the fact of contagion which developed in each of the three cases in three to four weeks. We had in these cases four trained nurses, none of whom felt any ill effects whatever. The greater anxiety and loss of rest of those who act as nurses rendered them more susceptible to the contagion of the disease in the room which cannot be rendered absolutely innocuious even with the greatest care.

THE NEURON.*

ALOYSIUS O. J. KELLY, M. D.†

Until within comparatively recent years the generally adopted conception of the nervous system was that its essential tissue was made up of two distinct morphologic elements, nerve-cells and nerve-fibers. The nerve-cells were supposed to originate, send, receive, and modify impulses. These were conveyed from one nerve-cell to another by the nerve-fibers, acting as conducting agents and serving to connect nerve-cell with nerve-cell. This transmission of impulses presupposed continuity of structure. We now know, however, that the nervous system is not made up of a number of nerve-cells maintained in continuity by nerve-fibers, but that it is composed of a number of distinct and independent neurologic units called *neurons*.

Each neuron originates as a unit, structurally independent of every other neuron, and as such it remains, despite its subsequent morphologic complexity. The essential parts of each neuron are the *nerve-cell* (in a restricted sense), the *axon* (axis-cylinder process), and the terminals of the axon,—the *end-tufts*. The nerve-cells are of various shapes and have received appellations in conformity therewith. The axon is a differentiated process of the cell-body. It may preserve its individuality and proceed as the axis-cylinder of a nerve-fiber, or it may immediately break up into numerous fine filaments. The axon always terminates in a free extremity,—*end-tufts* or *end-bushes*. Further, there proceed from the cell-body other processes known as *dendrons* or *dendrites;* and from the axon other processes known as *collaterals*. On the dendrites there are fine hair-like projections called *lateral buds* or *gemmulæ*, and at the branching of the dendrites thickenings known as *varicosities*. It is of a multitude of such neurons that the nervous system is made up.

Each neuron is always structurally unconnected with any other neuron. The relation that one bears to another is simply that of propinquity, or possibly contact. The function of the gemmulæ is to receive the nervous impulses from the end-tufts of the axon (for instance), and transmit them to the dendrites, whence they are conveyed to the cell-body proper. The impulse is further carried throughout the neuron by the axon, which thus serves as a cellifugal conducting apparatus; the dendrites transmitting impulses cellipitally. The impulse is delivered to a muscle-fiber, for instance, occasioning contraction by the terminals of the axon, which in order that it may distribute the impulse over a large area

*Abstract of an article read before the Philadelphia County Medical Society, November 25, 1896.

†Adjunct Professor of Pathology in the Philadelphia Polyclinic, Visiting Physician to St. Mary's Hospital, etc.

divides into numerous fine filaments, the end-tufts. These latter, therefore, serve as *organs of emission* or *deliverance* for the impulse. The collaterals functionate as do the axons.

Without doubt the most important part of the neuron is the nerve-cell, with the dendrites, being the nutritional, trophic, receptive, and impulsive elements. The dendrites are parts of the cell-body, being split-up portions of its periphery. They resemble the cell-body in structure and in function. The nerve-cell has been aptly termed the vital part of the neuron. The axons, collaterals, and end-tufts, outgrowths of the cell-body proper, are of secondary importance. They conduct and deliver impulses to neighboring regions. The processes of the neuron are, as it were, projections of the cell-body into the various motor and sensory regions of the body. Thus, without regard to its topographic situation, there is no one part of the nervous system that is not in direct association with every other part. There is no one part that functionates absolutely independently of every other part.

The theory of the motility of the neuron aptly explains certain hysterical, hypnotic, and other functional states (sleep), and may also serve to account for certain morbid manifestations, the nature of which we do not understand (tachycardia)*. Various so-called system-diseases of the nervous system are now known to be due to disease of neurons functionally allied,—a system of neurons. The fact that the more distal part of any axon (as the axis-cylinder of a nerve-fiber) is the least resistant to the morbific influence of various agencies, permits of our comprehending the occurrence of peripheral neuritis due to alcohol, arsenic, etc. We have also been able to discover the anatomic basis of certain mental diseases.

*Kelly. Essential Paroxysmal Tachycardia. MEDICAL AND SURGICAL REPORTER, October 24, 1896.

CAN ASSIMILATION BE INCREASED BY REMEDIAL GYMNASTICS?

DR. HENRIC SPARRE, PITTSBURG, PA.*

Among the various processes by which the nourishing elements of food is transformed into fluid and prepared to enter the blood on its return to the heart assimilation is prominent. We must bear in mind how nature accomplishes this process to understand that it is possible to directly assist in this important work.

The chyle passes from the food matter into the epithelium, and since the motive power in the epithelium is suction, a serpentine motion of the intestines presses the food matter against the epithelium with sufficient force to bring the chyle to the surface in contact with the epithelicell.

Other things being equal, the amount of chyle absorbed by the epithelium depends upon the energy of nerve force, viz: Diminished energy, diminished pressure, consequently less chyle is brought in contact with the epithelium, and reduced assimilation is the result of weakened nerve force.

By pressing the epithelium against the food matter the chyle will be forced to the surface in connection with the epithelium with exactly the same result as if the pressure had been from within and induced by nerve force. An increased amount of chyle will be absorbed by the epithelium of the same amount of food matter contained in the intestines, therefore the assimilation will be increased. The nerve force to accomplish this has been supplied by the operator.

To carry the increased nourishment to different parts of the body we must be able to assist the blood circulation.

The following case amply illustrates the value of the application of remedial gymnastics for the purpose of promoting assimilation and constructive metamorphosis.

*From the Royal College, Stockholm, Sweden.

W. W., aged twenty-four years, weight, ninety-one pounds; height, six feet and two inches; large frame; occupation, a farmer; was poisoned at Homestead, Pa., in 1892. When sent to me he was totally disabled, had to be carried on a cot; legs drawn up at the knees at an angle of sixty degrees, muscles flabby, contracted and atrophied, body badly nourished; he had bed sores; feet very much swollen on account of weak heart; abdomen sunken so that the spine and abdominal aorta could easily be felt; intestines paralyzed; no action of diaphragm in respiration, which was very shallow; pulse, 140; respiration, 40; temperature, normal; power of speech entirely lost; bowels constipated; in fact there seemed to be a general suspension of all the vital forces; secretion and excretion diminished and general metabolism of tissues abolished.

Treatment began March 26, 1895.

For two weeks preceding his pabulum consisted only of the juice of two pounds of mutton. Laxatives were given for four days when an enema was necessary to provoke an evacuation, after which he had natural evacuations without medicine but with occasional enemata.

On the fourth day he began eating solid food as bread, eggs, etc., in addition to broth. Improvement from that time was steady. Within six weeks he took three square meals a day and two eggs between meals. Indeed, he was put on a home diet. He was discharged September 2, 1895, 134 treatments in all having been given. His weight increased from ninety-one pounds to 129 pounds. On leaving the hospital he could walk with the aid of crutches, his voice returned and general revival of vital forces. In March, 1896, his weight was 175 pounds, and he is in perfect health. He returned to the farm where he has remained without further treatment.

CURRENT LITERATURE CONDENSED.

Epithelial Sowing; A New Method of Skin-grafting.[1]

A method of skin-grafting has been conceived by F. von Mangoldt, (of Dresden), to which he has given the name of "epithelial sowing," which, for ease of execution and certain other advantages, merits careful consideration. The epithelial elements are obtained by simply scraping a healthy cutaneous surface.

For this purpose he prefers the external or internal surface of the arm. The chosen spot is carefully shaved and disinfected and then, with a sharp sterilized razor, held perpendicularly to the skin, the epidermis is scraped away until the papillary layer is reached. In this way a magma is obtained, composed of epithelial cells and extravasated blood, which is spread upon the surface to be treated and thoroughly pressed in with a spatula. This sowing is very simple in case of a fresh wound, but it case of an old or infected wound it is necessary to remove the granulations and thoroughly disinfect it.

In order to make sure that the epithelial elements adhere closely to the wound, it is advised to scarify it with a small and very sharp bistoury before spreading the scrapings upon it. The spot from which the epithelium has been borrowed is dusted with dermatol, covered with sterilized gauze and bandaged.

The grafted area is covered with strips of protective, over which an aseptic dressing is placed. The region from which the epidermis has been removed resumes its normal appearance in a few days.

The transplanted area, during the days immediately following the operation, looks as if covered with a pseudomembrane; it loses its primitive brick-red color and becomes yellowish gray, a change due to the coagulation of the fibrin. At the fifth or seventh day the fibrin begins to disappear and the color changes to bluish rose, the first sign of the proliferation of the epidermic elements. Toward the middle or the end of the third week the surface is completely covered with epithelium.

After the fifth day the dressing is

1 Le Semaine Medicale. *The Railway Surgeon.*

changed every two days, and the wound is gently irrigated with a sterile warm, normal salt-solution. After the tenth day boric acid is dusted on. The new epithelial layer is at first thin and glossy, later it thickens and begins to desquamate. This desquamation is probably due to the absence of the glands normally present in the skin, should be combated with ointments of fat or oil.

Not the least of the advantage of this method is the fact that no pockets of necrotic tissue are closed in by the new skin, as sometimes happens in grafting by the Thiersch method.

Unusual Effects of Iodine.[2]

A case of rare iodine idiosyncrasy is reported by Dr. Tapp. A healthy man, age forty-six, laborer, had his right wrist slightly contused. Rest, a cold compress and massage improved his condition very soon, leaving slight swelling of the joint and tenderness of the adjacent soft parts. The official tincture of iodine was then applied. Seven hours later he was summoned to the patient whom he found suffering intense pain along the entire arm. The temperature of the painted portion was higher than of the surrounding tissue. In addition to severe boring pain, the patient complained of dizziness and a sense of dyspnœa. On the application of an ice-bag the pain in the arm subsided, but on the following morning the whole forearm was swollen to about four times the circumference of its fellow. The painted portion was highly inflamed and covered with a large number of vesicles partly with serous and partly hemorrhagic contents. Even slight contact caused severe pain. The axillary glands were slightly enlarged. The patient complained of severe headache, coryza, nausea and dyspnea. The urine contained traces of iodine. The vesicles were opened, emptied and the part dressed with an antiseptic drying powder. In about twenty-four hours the inflammation was found greatly reduced, the pain completely relieved, and all other symptoms considerably improved. Complete recovery occurred in about eight days.

In conclusion Dr. Tapp remarks that the application was made by himself, with a new camel's hair brush and but lightly painted. There was no solution of continuity. The patient had no preparation of iodine internally.

The Treatment of Crime.[3]

The scientific study of crime was initiated by the criminal anthropology of Lombroso and his followers. Dr. James was of opinion, however, that criminal anthropology had been of use not so much in itself as in the fact that it had been the initiating factor of something better —namely, the study of the criminal from the sociologic standpoint. Crime, he held, like disease, insanity and pauperism, was the result of the action of social factors. In social evolution, as in all evolutions, we had to recognize the survival of the fittest. The man who from faults of heredity or strain of environment, was, as it was termed, unfit, must succumb and became a victim of disease, a lunatic, a pauper, or a criminal, according to the circumstances of his constitutional condition or of his surroundings. The author then considered together disease, lunacy, crime and pauperism, and showed that year by year a certain fairly constant amount of each was fated to exist. He showed how they were all influenced by age, season of year, conditions of trade, etc. The interrelations of these were also demonstrated. From statistics it was shown how, for example, crime, lunacy and nervous diseases of all kinds were most prevalent at those seasons of the year when the death-rate and when pauperism were lowest, and *vice versa* at other seasons; how during cold weather crimes against property prevailed, how during warm weather there was a preponderance of crimes against persons. All these results pointed to the truth of what Quetelet had long ago enunciated—namely, "that the crime is the fault of society, the criminal is only the instrument." The means of best dealing with crime were then referred to, and the first indication in this matter seemed to be that the particular crime should be regarded as of less importance than the harmfulness or usefulness of the criminal to the society in which he lived. Those training for criminal law should

2 Translated for Pittsburg Medical Review, from *Therepeutische Monatschrifte.*

3 Dr. A. James before Edinburg Medical Society, *British Medical Journal.*

be educated in physiology, medicine and psychology, and the practical study of criminals by clinics in jails should be instituted, just as at present the practical study of disease and insanity was carried out in hospitals and asylums. All criminal investigations should be as public as possible, and for commercial crimes, such as fraudulent bankruptcy, breaches of trust, etc., publicity as regards income, working capital, etc., would be of value. He was strongly in favor of indeterminate sentences, and he held that the governers of prisons should all be trained in medicine and psychology.

The paper was discussed by Sir Henry Littlejohn, who dwelt on the defective mental condition of the inhabitants of our jails; by Dr. Glouston, who urged the lack of inhibition prevalent among criminals; by Dr. Batty Tuke, the President of the Royal College of Physicians, who urged that crime was a product of the evils of our social state; and by Lieutenant-Colonel A. B. McHardy, R.E., the Chairman of the Prison Commission for Scotland.

Appendicitis[4]

Two Berlin surgeons have contributed important papers. E. Sonneberg (*Berlin. klin. Wochen.*,) at the twenty-fifth anniversary of the German Society of Surgery, communicates the results of his work, and divides his cases into seven groups—(1) slight cases, with frequent slight "colic," without severe pain, swelling or fever, associated with trifling changes in the appendix; (2) cases with thickening and twisting of appendix, and slight adhesions, characterised by slight pain and local feeling of resistance between the attacks, and during an attack obvious swelling; (3) a condition similar to the last, but with the presence of fecal "pellets" in the lumen; (4) "empyema" of the appendix, often following ulceration and cicatrization; the progress of such cases depends upon the character of the pus and its organism; (5) simple appendicitis, with infective complications—(*a*) surrounding exudation, (*b*) lymphangitis of ilio-cecal vessels, followed by distant infections (pleura, liver, peritoneum), (*c*) gangrene of the appendix with peritonitis; (6) perforative appendicitis with peritonitis (local or general); (7) perforative appendicitis with multiple abscesses, peritonitis, abcess of liver or diaphragm, empyema, etc. Sonnenberg advocates intervention even in slight cases, especially when they run a chronic course; but the treatment should always be removal of the appendix, and not simply incision of the abscess.

J. Rotter (*Central. f. Chirurgie*) bases his paper upon 213 cases treated in the wards, medical and surgical, of the St. Hedwig Krankenhaus, Berlin, and the inclusion of the "medical" cases imparts a special value and interest to his work. With respect to the mortality of "perityphlitis," of the 213 cases reported 19 ended fatally (= 8·9 per cent.); diffuse peritonitis was present in 21 cases, and of these 14 were fatal, in spite of early operation; of 192 cases of circumscribed peritonitis, 106 (= 82 per cent.) yielded to non-operative treatment; of the remaining 36, 33 underwent operation, with two deaths, three patients dying without operation in the medical wards, so that in this group there were five deaths (= 2·5 per cent.); of these five, one certainly and two probably should by early operation have been prevented, so that in favorable cases the mortality would be one per cent. Taking the cases as a whole, the author believes that a mortality of 7 or 8 per cent. must be looked for.

The principle followed in treatment was immediate operation in general peritonitis, delay in localized peritonitis. To determine the frequency of recurrence, Rotter considers Sonnenberg's material together with his own, and finds this tendency in 21 to 27 per cent., usually two attacks, rarely three or more; recurrence commonly occurred within the first year; in half of the recurrent cases the appendicitis is non-perforative, and so the disease loses a large element of danger in such cases. Very important are the remarks on the spontaneous cure of perityphlitis; in considering this point only such cases are dealt with as came under treatment in the first six days of the disease, and of these cases there were 110 with 100 (or 90 per cent.) "spontaneous" cures;

[4] Edinburg Medical Journal, December, 1896.

if with these are grouped cases with general peritonitis in first six days of disease, one has "spontaneous" cure in 84 per cent. After showing the possibility of pus being spontaneously discharged by the bowel, by rupture of the appendix and external opening, by absorption by the peritoneum (more usual), Rotter gives a clinic picture of the disease; rejecting Sonnenberg's division into simple and perforative forms, he distinguishes his cases as localized or complicated by general peritonitis.

His remarks on the temperature are valuable, and in this relation he distinguishes various types of cases—(1) Cases with early fever (40° C.), defervescence on third or fourth day, and rapid recovery; (2) similar onset, but more prolonged fever, with fall of temperature about fifth day to 39° C.; of 14 such cases, three were operated on for abscess, and all cured; if fever still present on eighth day, such cases should be operated on; (3) temperature after fifth day still over 39° C.—infection virulent—prognosis unfavorable; of 11 such cases two died, two were cured without operation, four were operated on, and three recovered after long illness (perforation into the bowel); these cases demand early operation, on sixth day at latest, earlier if symptoms of peritonitis occur; (4) recurrence of fever after early defervescence; of six such cases four were operated on, one died from peritonitis; they should be operated upon on the first relapse; (5) general peritonitis, with serious infection, low temperature; in these cases the state of the pulse gives indications as to the severity of the disease; operation is absolutely indicated. Rotter would only operate on his cases when symptoms arise indicating danger to life or complications—the operation is not always easy, and many cases recover without operation.

In recurrent cases removal of the appendix should be carried out only after three attacks, or when after any attack there persisted tenderness of the appendix. General peritonitis may often be avoided in appendicitis by prolonged rest in bed, and by avoidance of purgatives. Gangrene of the appendix was met with five times—it indicates a severe infection; adhesion to the small bowel was twice seen, to the back of the colon once, to the rectum twice, to the sacrum once; thrice the appendix was found in right femoral herniæ, twice in inguinal herniæ. Twice intestinal obstruction existed, from formation of a kink in the small bowel; both patients recovered.

ABSTRACTS.

AURAL HERPES.*

Herpetiform eruptions are frequently observed on the auricle in cases of suppurative otitis media or externa, and true herpes zoster of the face occasionally involves the external ear, but true herpes of the external auditory canal and auricle is extremely rare. Its manifestations in this locality seem to be identical with the eruption when occurring on other parts of the body. The disease is usually seen in persons of a neurotic temperament, and while it may occur during perfect health, yet is frequently associated with some obscure conditions of malnutrition, as improper food or faulty assimilation. It is found most frequently when the digestive apparatus is at fault.

So far as has been ascertained, the exciting cause of the attack is exposure to cold, although the appearance of the disease in other localities has followed minor traumatisms or the application of irritants. The essential cause of the disease, as now generally accepted, is a neuritis of the superficial nerves. The principal nerves involved are the auricularis magnus and the auriculotemporal.

The symptoms usually noted are plain,

* Lewis S. Somers, M. D., Philadelphia, in *The American Medico-Surgical Bulletin.*

generally preceding the appearance of the vesicles by several days, more or less constitutional disturbance, and finally the appearance of the typical eruption upon some portion of the auricle or external auditory canal. The pain is the most characteristic symptom in this locality, being neuralgic in character, and in several of the cases reported was not only experienced in the auricle, but followed the course of the nerve ramifications over the side of the face and down the neck. The temperature is increased, but usually falls to, or near, normal on the appearance of the eruption, occasionally the fever is so severe that it continues after the vesicles have developed, being usually due to a continuation of the disease by the production of successive crops of the latter, the disease then assuming more or less of a chronic character.

The skin of the helix and of the fossa navicularis is the portion of the ear on which the vesicles appear with most severity, and the severe burning pain complained of is usually over the anterior surface of the auricle, in preference to the posterior surface or external canal. This corresponds and may be explained by this part of the ear receiving its nerve supply from filaments of the auricular branch of the pneumogastric. In this connection Burnett suggests that the disease may stand in close relation to fibers of the sympathetic connected with the nerves mentioned as involved in the affection. Herpes of the auricle presents the same features that characterize the disease in other localities, but when the external auditory canal is the seat of the eruption the hearing is rendered less acute and subjective noises are complained of, depending upon the degree of involvement of the canal. In one case reported involving the membrane tympani, it produced considerable deafness and a sense of constriction of the head.

The eruption consists of groups of clear vesicles situated on a reddish base, and contain, when newly formed, clear serum, which later in the course of the affection may become turbid or purulent. The vesicles are situated in groups, which may coalesce and form bullæ if the disease is of much severity. Ordinarily the disease is unilateral. After the vesicles have existed for a few days they rupture, leaving small reddish or purple maculæ, the affection then amounting to a superficial otitis externa diffusa. This external otitis may persist for a considerable period of time, especially in individuals whose general condition is below the normal, the vesicles, after rupturing leaving behind eroded or ulcerated areas.

The pain, not always lessened or lost on the appearance of the vesicles, the neuralgic pain persisting sometimes for a long time after the eruption has entirely disappeared. The duration of the disease seems to be from two to three weeks, although the ulcers remaining on the auricle may persist for a considerable period after the acute symptoms have subsided. The diagnosis is difficult only before the appearance of the vesicles, as there is no local lesion present to account for the pain and systemic disturbance until they appear.

As diathetic conditions seem to play a greater or lesser part in the etiology of the affection, the condition is very apt to recur, often so many as two or three times before a complete cure is affected. This point should be carefully considered in the application of remedial measures directed to the cure of the disease. The treatment necessarily divides itself into two parts; that directed to any constitutional conditions which may be present, and, secondarily, attention to the local manifestations. The first measure should be a thorough cleaning of the primæ viæ by a saline purge, the diet being limited to plain food and reduced in quantity. If the pain is excessive or the temperature high, antipyretics may be administered, such as phenacetine or aconite. The latter in minute doses may be used every hour until its physiological effects become apparent, when the intervals between which it has been taken may be lengthened, so as to maintain the effect it has produced.

Before the appearance of the vesicles the pain may be mitigated by local applications of cold, either by cloths saturated with ice-water or bathing the parts in a cold solution of lead water and laudanum. When the vesicles have fully formed, every effort should be exerted to prevent their rupture. Anstie

recommends that the affected parts be covered with a protective layer of collodion, but the usual method is to employ some simple dusting powder, such as starch or zinc, and warn the patient not to touch the affected areas. If the contents of the vesicles should become purulent, probably the method of opening them is the best treatment. Occasionally ulceration may occur; when this cannot be prevented the small ulcers should be treated on general antiseptic principles, the location of the disease not affecting our choice of medication. A soothing ointment containing opium applied locally is of value when much pain is experienced. When the vesicles recur and the neuralgic pain seems intermittent counter-irritation over the affected nerves may be of value, the actual cautery or drugs, such as iodine, being used.

THE SERUM TEST AS A METHOD OF DIAGNOSIS FOR TYPHOID FEVER.

Further experience with Widal's serum test in typhoid fever tends to confirm its value as a useful aid to diagnosis, says the Boston *Medical and Surgical Journal*. November 9th, the New York Board of Health issued a circular to physicians inviting them to co-operate with the department in conducting experiments which will assist in the diagnosis of early or obscure cases of this disease. Dr. Herman Biggs, director of the Health Board's bacteriological laboratory, reported to the board recently that previous investigations showed that serum from the blood of typhoid patients has the power of arresting the active movement of the bacilli, and of producing peculiar and characteristic clumping of these organisms. It has been shown, he considers, that this reaction occurs frequently very early in the course of the disease, at a time when the physician by ordinary methods cannot determine certainly whether the patient is suffering from typhoid or some other form of fever. Also, that it is found throughout the course of the disease, and very often for a considerable period after complete recovery.

With the sanction of the board, Dr. Biggs has arranged to make a daily collection of slides furnished by physicians from the druggists with whom diphtheria culture-tubes are kept, and to promptly investigate and report upon them. It is believed that the scheme will be of material assistance to practioners in enabling them to promptly care for typhoid cases in the incipient stages.

At the Boston City Hospital the test has been made in about fifty cases of undoubted typhoid, and of a few other diseases. In almost all the response has accorded with the diagnosis as previously made, or reached later with a clearer view of the conditions.

Dr. C. L. Greene, of St. Paul, Minn., reports the results of the application of the test in twenty-five cases, eleven of typhoid and thirteen of other diseases; with positive results in all of the first class, and negative results in all of the second class. The reaction has been observed as early as what was supposed to be the end of the week and as late as the seventh week. To determine the true value of the test as a means to diagnosis further observations are desirable.

In a translation for the Pittsburg *Medical Review*, by Theodore Diller, M. D., he states that M. Catrin, at a recent meeting of the Societe Medicale des Hopitaux, stated that in his practice he had convinced himself of the value of the serum diagnosis of typhoid fever proposed by Widal. In twenty-five cases, not affected with typhoid fever, in which the test was applied, the results were negative; while in eighty-two instances in which typhoid fever was present the serum produced positive results. M. Catrin considers the clinical value of this method certain. Nevertheless in light cases of typhoid fever the reaction may fail; Catrin reports two such. The reaction is more decided when the fever is more grave and vice versa—a fact of

value in the prognosis. M. Catrin has seen the reaction produced on the fourth day of the disease. He insists on the advantages of this method; it is helpful, not only for prognostic purposes, but also for treatment to know definitely whether a given case be one of typhoid fever or not.

CONDITIONS WHICH MAY SIMULATE ORGANIC OBSTRUCTION OF THE LARGE INTESTINE.*

Fecal stasis, impediment to motion, or complete obstruction in the large intestine occurs more commonly than in any other region of the alimentary canal. In my own experience in a considerable number of cases I have found varying degrees of fecal stasis very much more common than is generally supposed, and when discovered, in cases not dependent on organic changes, quite easy of relief.

Let it be understood at the beginning that the large intestine is in function a reservoir or receptacle for the feces, as the bladder is for the urinary secretion; that it is a sewer vent only, receiving, lodging and discharging the alvine deposit. At the ileo-cecal portal digestion ends and the work of elimination begins. With a terminal segment of the alimentary canal so radically different in function from that concerned in the chemico-vital changes of digestion, it follows that we must necessarily note a wide difference in the histo-anatomical structures. And so it is in very many important particulars. To begin, it does not appear clear why a simple pouch for the feces would not have served the purpose of the long, convoluted, twisted colon, which from its shape, position and direction is constantly exposed to injury or disease. The distinguishing anatomic characteristics of the large intestine are its size, convoluted contour, its broad fibrous bands, the thinness of its walls, and its fixed position below and on the sides. In its walls dense bands of fibrous tissue abound to give it strength and elasticity. There is a scarcity of smooth muscle tissue, and its glandular structures are wholly mucous. If we open the abdomen of a living animal we may readily see or feel the peristaltic wave of the small intestine while the colon is quite motionless. It is therefore evident that movement in the colon is almost entirely dependent on extraneous influences. If we inject any non-corrosive toxic substance in solution into the healthy bladder it will be retained unchanged without entering the circulation; but not so with the rectal end of the large intestine which will quickly absorb it. In fact the rectum will absorb almost any substance reduced to a pulp or fluid; and there can be no doubt, reasoning from analogy, that under many conditions it will reabsorb the fecal elements.

The alimentary residue as it clears the colic valve is sent into the cecum, then it makes a detour first downward then up against gravity, the fecal current meeting resistance again at the hepatic flexure, to clear the splenic arch and descend to the sigmoid spiral and remain in this until sent into the rectum. The colon, of all parts of the alimentary tract, is more liable to atypical development derangement in its relations. This is particularly true of the *caput coli* as every surgeon well knows, from his experience with operations on the appendix. I have seen the large intestine in a female cadaver no larger than the ileum. We may find the cecum far away from its usual site, up near the right kidney down in the pelvis, or even over beyond the median line. And so will we not uncommonly find this organ passing out of the abdomen in hernia, reducible or strangulated.

The cecum, the ascending and the descending colon and the rectum are all more or less fixed by the retro-peritoneal tissues; a type of anatomic structure for the first time described by Mr. B. Alexander at the late meeting of the British Medical Association, '96. However fixed the attachment of the cecum, those of the transverse colon and the sigmoid are very variable. In all large,

*Thomas H. Manley, M. D., New York, in Cleveland Medical Gazette.

and in some moderate sized umbilical hernias, the transverse colon is as a rule found; and occasionally the sigmoid flexure makes its way out through an inguinal hernia on the left side. Dr Theo. A. McGraw, of Detroit, in a late able contribution on the surgery of the colon, calls attention to these anomalies and their importance in the diagnosis and treatment of colic lesions; and Jacobi, of New York, points out that an elongated mesentry plays an important role in infantile constipation, dependent upon impaction and displacement of the sigmoid. Mechanical obstruction of the large intestine varies in degree, situation and in causation. As an etiological element, everything will be excluded of an organic origin, and hence only those factors of an extrinsic source will be touched on.

The principal pathologic conditions of an extraneous order which play a dominant *role* in obstructing the fecal current are:

1. Atony of the bowel, degeneration, hemorrhoidal lesions.
2. Neoplasms, inflammatory deposits, ectopic or displaced organs.
3. Hernia, strangulated or reducible.

Atony of all the muscular tissues, smooth and striped, begins to make itself manifest about middle life; in some later than in others. Its effects are more pronounced in the female, and its influence is more pronounced in the large intestine than any other area of the digestive tube. The large intestine is widely expanded at its origin and its terminus; and in these situations do we most commonly find fecal stasis or impaction, succeeding enervation of structure. We not only find a diminution in sensation, but a marked impairment of motive power. Hemorrhodial degeneration of the ano-rectal verge consecutive to venous stasis, inflammation, thrombosis, hypertrophy, or atrophy is one of the penalties for the upright attitude and modern civilization and is a most prolific source of weakness in expulsive power, or of stenosis at the anal outlet.

Neoplasms, tumor formations, or deposits in any part of the colic arcade may interfere with or totally arrest motion within the lumen of the large intestine. This is liable to occur in any of its fixed areas. The female in consequence of the demands on her in pregnancy and the singular frequency of new growths and infectious deposits in her internal genitalia is most liable to physical impediments of this type. In the rectum too, the female is prone to a comparatively common type of fecal obstruction from uterine displacement backward. In some instances the hypertrophied uterus is completely retroverted and so wedged down by adhesions as not only to constitute a permanent barrier to defecation, but it may induce a persistent rectal irritation, and on examination be mistaken by the unwary or inexperienced for a new growth. Two such mistakes have come under my notice. Hernia is sometimes a factor in closing the large intestine, or impacting the fecal current. It is unusual however that life is seriously jeopardized by it except in the event of strangulation. When this does occur its evolution is more gradual than when the small intestine is extruded. It is the most dangerous of all the causes leading to extrinsic obstruction. I have seen it in strangulated umbilical hernia of women and in the inguinal of men, lead to death, through not having been recognized until it was too late to promise anything by operation.

Symptoms.—As may be inferred from what has been submitted in every case of the type of intestinal obstruction considered here, the constitutional symptoms occupy a prominent position although they are not well accentuated. Indigestion, constipation, auto-infection, reflex irritations and disturbances in organs remote from or contiguous to the large intestine may be noted. Our attention nevertheless is more commonly directed to the seat of trouble by local symptoms. Cecal impaction, typhilitis or appendicitis of subacute type in all stages of life give rise to a pain in the right side with a sense of weight and soreness over the right iliac fossa. Rectal impaction in the male may lend us to suspect prostatitis or hypertrophy of the prostate or cystic disease, the bladder being crowded over against the pubes and its capacity so reduced that it can hold but little more than an ounce at a time. Indeed it is my belief that a constant irritation is

propagated to the prostate by the rectal fascia in impaction of the rectum and is one of the most fruitful causes of inflammatory hypertrophy of the prostate. In elderly people, with vesical irritation of long standing, let us not overlook the possibility of pressure resulting from fecal stasis or impaction in the rectnm.

In the female, rectal inertia on the one hand and ectopia of the organs of generation on the other, produce reciprocally the most complex train of symptoms. In many women there is even in health a tendency to descent of the uterus with a permanent backward displacement of the organ against the rectum, and *vice versa*, especially in the multiparous, in consequence of damage to the *levator ani* in the parturient act. Atrophic changes follow, greatly reducing its expulsive power, and lending to a serious impediment in function, thus favoring a constant tendency to impaction of the rectum. There can be no question but many of the symptoms of uterine and vesical troubles in elderly women proceed from these causes.

Costiveness we might suppose should occupy an important position in the symptomatology of intestinal obstruction, but as this may proceed from so many diverse causes, alone it is unreliable.

In many we should place but little reliance on what patients tell us in respect to regularity of the bowels. Thus in one instance an old gentleman informed me that his valet gave him an injection every morning, it was always succeeded by a loose motion and he was regular; yet in consequence of the condition found on examination of the abdomen evidence pointed to impaction of the entire colon. I explored his rectum and there found an enormous enterolith solidly wedged into the pelvis. It was as large as a fetal head and had to be split in pieces with a mallet and osteotome before it could be removed. He assures me that he must have carried it for fourteen years, as during all that time he had most troublesome vesical irritation and tenesmus. It was most extraordinary in this case that with the exception of local disturbances, his health did not suffer.

Diagnosis.—We must rely on physical examination very largely in ferreting out the pathologic basis of these troubles. Surface and rectal examinations are our main reliance; but it must be conducted with method and skill. In the thin subject we may receive much positive information by inspection, percussion and palpation of the abdominal walls. By these means we may often detect cecal impaction, a condition which Sir Thornley Stoker, of Dublin, maintains is not only a most prolific cause of typhlitis and appendicitis but is often mistaken for it, and hence he advises in doubtful cases to explore for it, and if present, thoroughly to clear the large intestine by turpentine enemata. By this means alone, in his own hands, he has cured several. Sigmoid impaction or volvulus might be mistaken in the female for new growths or pus collections and can only be differentiated by a physical examination.

Rectal examination is more valuable than all others combined. We may examine by the finger alone in the rectal pouch or by conjoined bimanual examination. Before we begin, the bladder should be emptied. In the female we are enabled to make our work of exploration more thorough and satisfactory through utilizing the vagina. In this examination, we must depend quite exclusively on digital exploration, as the speculum or other instruments will afford little, if any, aid, while on the contrary their untimely or unskilled use in inexperienced hands may work great evil.

Dr. Thomas More Madden has recently received from the Royal University of Ireland the degree of M. A. O. (*Honoris Causa*) or Master of Obstetrics. Dr. More Madden has a world-wide reputation as an obstetrician, and besides a well-known treatise on Clinical Gynecology, is the author of several other standard medical works. He has been President of the Obstetrical Section of the Academy of Medicine, and Vice-President of the British Gynecological Society.

Guest—"Am I the unlucky thirteener?"

Host—"No; you're the lucky fourteener. We invited you to fill the gap."

Guest—"All right. I've brought it with me."—*Detroit Free Press.*

CAUSES LEADING TO TUBERCULAR INFECTION.*

About one-fourth of the deaths from septic diseases in the United States result from tuberculosis of the lungs. Wherever civilized communities are found, and human beings remain settled in one place for any length of time, there the infectious microbe which causes this disease finds it way. Tuberculosis has become almost a household disease in many communities, and thousands of families throughout the country have their tubercular member, who is endangering the health of the others in the household.

The disease germs are taken into the body by breathing infected air and eating infected food. The air most frequently becomes infected from dust in which is mixed the dried sputum of consumptives. In every community there are many such patients who go from year to year coughing and expectorating wherever they happen to be. This sputum dries, and is broken up into fine particles, which rise whenever the dust is disturbed, and are breathed into the lungs of all who may come within its reach. Thus does the tubercular patient infect not only his friends, but re-infects himself.

It is in this way that so much of so-called hereditary consumption occurs. It is a very rare occurrence for a child to be born tubercular, even when the parents are so, although many come into the world with a strong tendency in that direction; that is, they do not resist the disease well, and when exposed to the infection easily become diseased.

Such children are apt to become very rapidly infected during the first year of life, and especially during the second, third, and fourth years. After they begin to play on the floor, they are almost continually in the dust-laden air. The little child naturally puts everything into its mouth; and when it drops its toys or anything it has in its hand on the floor, it picks it up and puts it, all dust-laden, back into its mouth. If this dust happens to be full of dried and pulverized tubercular sputum, as it is apt to be in the home of the careless consumptive, the little one swallows the poison, and being already pre-disposed to the disease, it readily becomes infected with it. Thus the parent not only bequeaths to the child a tendency to the disease, but carelessly surrounds it with an atmosphere of disease germs, when a little care and painstaking might easily have spared the little one this danger to life. The tubercular germ, when dried, will retain its vitality for many months, and be ready for development whenever it finds a suitable soil.

Tuberculosis in adults is most frequent in the lungs, but infants and children are often infected in the glands of the neck, the membranes of the brain aud of the bowels, and even in the structure of the bones. In fact, at no age is there any membrane, gland, or other organ of the body, but is liable to become infected with the tubercular virus. The fact that in adult life the infection of the lungs is so much more frequent than that of the other organs, would seem to indicate that the disease was most usually due to inhaling the germs.

The tubercular germ, fortunately, does not increase outside the bodies of men or animals; and when exposed to sunlight and moisture, its infecting properties are soon destroyed. When it is kept dry, and in darkness, however, neither heat nor cold seem to affect its vitality.

While this germ is always the source of the disease, there are certain causes which predispose to it, or fit the body for the germ to grow in it. Whatever tends to impair nutrition so weakens the structures of the body that the glands of the lungs and other organs soon become invaded. The great majority of cases of consumption and other tubercular disorders are preceded by disease of the digestive organs. The patient's general health failing because the digestive organs do imperfect work, all the cells and tissues of the body become enfeebled, and unable to destroy the disease germs which may find an entrance into the body. If the struc-

*Good Health.

tures are healthy, these germs are soon destroyed, but if weakened by disease, the germs grow and multiply, until in time the body is destroyed.

All chronic diseases, as valvular heart disease, Bright's disease of the kidneys, disease of the liver, and ailments of the digestive organs, are predisposing causes of tuberculosis. Intemperance both in eating and in the use of stimulants is also a very active agent in bringing about conditions conducive to this disease. Among the lower classes of the large cities, where intemperance, licentiousness, and kindred vices prevail, consumption of the lungs is a very common disorder; and poverty and want furnish most favorable conditions for the spread of the infection.

Overwork and want of sleep, sedentary occupations, and living and working in badly ventilated shops, factories, and stores, where successive generations of consumptives have worked and expectorated on the floors, and the buildings have become thoroughly infected with the tubercular bacilli, are all conducive to the disease.

Close confinement in prisons and nunneries tends to breed tubercular disease. It is often very prevalent in badly built prisons, and is the disease from which the greatest number of the sisters in convents die. Churches, theater buildings, lecture-halls, and club-rooms that have been used for many years, and were shut away from the sunlight, being seldom properly ventilated, furnish excellent hiding-places for tubercular and other disease germs.

Physicians and nurses often receive the infection from the patients they are called upon to care for professionally. Especially is the nurse in a consumptive's family exposed to the danger of contagion. The patient may have been long ill when she takes charge of the case, and may be but one of several members of the same family who have died of tubercular disease. The whole house may be infected when the nurse comes into it; and though she may do her best to destroy the infecting material, and to keep her patient from still further infecting the surroundings, the indifference and carelessness of the family as to the danger of contagion may overthrow the results of all her efforts.

During the past half-decade many cases of tubercular disease have begun after the debilitation due to the influenza, or la grippe. The pneumonia which so often complicates this disease leaves portions of the lungs consolidated, and at these points the tubercular germs readily find a starting-point, and soon there is a breaking-down of the tissue, and an abscess is formed. This is the history of many cases met with in general practice. Mothers debilitated by too frequent child-bearing, or overworked when nursing their children, are very frequent victims of consumption. The overtaxation and persistent application to business practised by so many men in the pursuit of wealth often undermines the health, and invites the attack of the disease.

But while all these conditions predispose to tuberculosis, the disease cannot really exist without the germ which produces it. The ability to resist the disease is in proportion to the integrity and soundness of every tissue and organ of the body; therefore, whatever operates to destroy and lessen the number of germs in air, food, and drink, and whatever leads to the promotion of general good health, will tend to finally stamp out this great white plague, consumption.

To His Delinquent Patient.

If I should die to-night—
And you should come to my cold corpse and say,
Weeping and heartsick, o'er my lifeless clay;
If I should die to-night—
And you should come in deepest grief and woe,
And say, "Here's that $10 that I owe,"
I might arise in my great white cravat
And say, "What's that?"

If I should die to-night—
And you should come beside my corpse to kneel,
Clasping my bier to show the grief you feel;
I say, if I should die to-night—
And you should come to me, and there and then
Just even *hint* 'bout paying me that ten,
I might arise a while—but I'd drop dead again.

—*Gross Medical College Bulletin.*

A girl will mount, and a girl will scorch,
And a girl will ride all day;
But she can't carry water to scrub the porch,
Because she ain't built that way.

—*Medical Age.*

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, DECEMBER 5, 1896.

A CARD.

The Publishers deplore the extraordinary delay in issuing the REPORTER for November 28th. The unprecedented lapse was the result of circumstances unforeseen and therefore unavoidable. It is proper to state that the responsibility does not rest with the editorial management. The journal reached the press-room on time. There it encountered a series of mishaps which culminated in the necessity for re-printing an entire form and re-binding of the whole edition. The changes necessary involved delay in the issue of the present number also, and may slightly retard that for December 12th.

In this connection, the Publishers would announce that the present method of issuing and mailing the REPORTER on Saturdays has proved unsatisfactory, and hereafter it will be mailed at least twenty-four hours earlier. The day of formal issue, however, will remain unchanged. With the new year, a readjustment of our working facilities will be effected, which will obviate the probability of a recurrence of the present annoying contingency.

EDITORIAL.

SKIMMED AND SEPARATOR MILK.

Of all the advances made in modern restrictive laws, none have a more marked effect upon the welfare of the race than those which are included under the acts for the supervision of food products and the regulation of their sale. Heredity doubtless has its influence upon the individual, but his bone and sinew, his blood and flesh, are, directly or indirectly, derived from the materials he eats, modified it is true, by various environments but not dependent upon them.

The regulatory laws upon the quality

of milk, which forms so large a part of human food, are particularly worthy of note, and that there has been a marked progression in the average status of human health from the jealous oversight that has been kept over the dairy products alone will be universally conceded. Before the interference of the law in this matter, various and sundry aqueous mixtures were offered as the lacteal fluid, many of them containing ingredients injurious to the children who were the chief consumers, and others deprived of constituents increasing the value of the product, if not necessary to its usefulness. Under the wise provisions of the law, milk is no longer colored by various vegetable and mineral substances to simulate a richness it does not possess, nor may the proverbial chalk give body to the water added to increase the bulk. A certain percentage of cream can no longer be abstracted and the product sold as pure milk, and even a definition is made of the properties of the by-product, skimmed milk, that its purchasers may not be defrauded of their just dues.

For years this city was made the dumping ground of all the creamery refuse for miles around, much of it being bought by dishonest dealers with a view toward blending it with their supplies and selling it as pure milk, or of offering it as skimmed milk, and thus making a handsome profit. At the first glance it does not seem as if there were any great difference in food value between the milk from which the cream has been removed by a skimming process, and that from which it has been separated. Yet a moment's thought will convince that no process of hand skimming can succeed in removing all of the fatty constituents of the milk, at least not while the residue would be left in a sufficiently sweet condition to be fit for sale. On the contrary, one of the chief points claimed for the separator process is that it does practically remove all the fatty element leaving only about .003 by weight of fat, and an infinitesimally small proportion of cream.

The chief digestibility of milk depends upon the presence of these same fatty elements. A comparison is easily made. Milk when it enters the stomach is at once coagulated into a curd. The curd from rich milk or milk containing a large proportion of fat, is a soft, easily separable mass, while milk from which all the fat has been taken becomes a hard leathery curd, upon which the usual macerating and churning action of the stomach makes little impression. Pure milk, hand skimmed milk, and separator milk, placed in test tubes, and treated with gastric juice will show a marked difference. The curd of the first will have the globules of fat thoroughly disseminated through it, and when rubbed between the finger and thumb will readily disintegrate into small particles. The sample of skimmed milk will form a harder curd, owing to the absence of so much of the fat, yet can be disintegrated with the exercise of more force, though a thorough disintegration will take more time. The curd of the separator milk will be tough and leathery, and cannot be brought to a condition resembling that of the pure milk curd even by the application of masticatory force.

In such cases as have come under the consideration of the law in the matter of arrests made upon the charge of substituting separator milk for skimmed milk, the defence has been set up that the nutritive value of the separator milk, tested by the food units present in a given bulk of solid material, or by the relative cost of the bulk from which a pound of solid nutrient matter had been obtained, was greater than either whole milk or beef. That there is false reasoning here

is apparent, but the laity, not reasoning readily upon such matters, seeing this bald statement not denied, might readily be brought to think that the cheaper product might be scientifically the more valuable. The speciousness of the arguments advanced lies in the fact that not all the food units present in any given bulk are always available. Sawdust contains many of the elements that are also present in our most valuable foods, but one might feed a child on any proportion of sawdust with the only result of starving to death the subject of the experiment. There may be a larger proportion of calories of potential energy purchasable for a given sum in separator milk than in either whole milk or in beef, but owing to the indigestibility of the curd there will be a far less number available, and hence, for the expenditure of the same sum, there will be a literal obtaining of less nutrient value.

Bulk, more than price, has its effect upon the nutrient value. A man eating a pound of beef will be in far better physical condition, to say nothing of his comfort, than another man who has drunk the five and one-half quarts of separator milk which will give the equal amount of solid constituents. And of these potential units those of the milk will require in their release the expenditure of more time, more energy, and even then not so great a number will be liberated. This comparison of value does not take into account the fact that so large a bulk of liquid food will abnormally distend the stomach, leading to various serious disturbances of that organ, overwork the kidneys and other excretory organs, and generally lower the tone of the system. Also the fact that so much energy must be used to liberate the units of milk necessitates the leaving of less for other functional activity, and there is after all only a very small percentage of profit for the system.

In a mixed diet separator milk has its uses. Its sale at a proper proportionate price and as separator, not skimmed milk, should not be prohibited, but all opportunity for its substitution for and sale as a more valuable product should be guarded against. Thus only will the public weal be properly conserved. No effort should be spared to make operative the more admirable features of the present pure food law, and to further amend and improve its provisions where they fall short of the highest standard of excellence, and in these matters the medical profession can be of the greatest assistance. To afford such assistance is not only a privilege but a duty, and a duty whose neglect reflects upon all concerned.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, November 25, 1896.

The president, Dr. J. C. Wilson, in the chair.

Discussion on the paper of Dr. J. T. Rugh on

"EIGHT PRIMARY MOVEMENTS IN THE TREATMENT OF CURVATURE OF THE SPINE.

(Read November 11, 1896).

[See page 673].

DR. DE FOREST WILLARD said that Dr. Rugh has done a valuable service in systematizing and classifying the movements for the rectification of scoliosis, for it is essential that there shall be some definite plan. While no two cases of scoliosis can be treated exactly alike, as the curves will differ in each individual, yet there should be a definite and specific object in view. It is difficult for the

ordinary practitioner, unless he has given the subject great attention, to understand exactly what is to be accomplished, and more difficult to accomplish the result after deciding upon the treatment neccssary in that particular case. The curves differ so greatly in each that they require especially careful study to decide in the first place the method to be employed in the rectification. It is simply impossible for anyone to decide unless he examines the bared back of the individual and examines it most critically and carefully in the various positions of sitting, standing, walking, bending, etc. Unfortunately, many of these cases occur in young girls at the age when they are particularly modest in the exposure of their backs, and yet it is absolutely necessary that these movements shall be studied and regulated by the physician, to accomplish results that will in that individual best overcome these curves; it is therefore essential that they be tested with the posterior aspect of the trunk uncovered.

The restoration of normal movement and the relief of rigidity are the important portions of the treatment. It is the rigidity which is so difficult to overcome, particularly when rotation has occurred. In the general profession the distinction is not made with sufficient accuracy in regard to the cases of slight functional lateral curvature and those in which rotation has actually taken place. All who have experience in this disease know that the profession is too prone, upon the detection of a slight functional lateral curvature, to suppose that the application of an apparatus will assist or cure the individual. There can be no greater fallacy. No case of functional lateral curvature was ever benefited in the slightest degree by an apparatus. Very many have been injured and very many rendered hopeless by the rotation that has occurred after the apparatus has been applied. The only method by which a slight functional scoliosis can be corrected is the restoration, in the first place, of the muscular balance of the two halves of the body and the restoration of curves to their normal position. This can only be accomplished by muscular action, by the tonus of that muscular action. This is to be brought about by special gymnastic movements, not by general calisthenic movements, although these come in sometimes with good effect in producing increased tone of the general muscular system; but the special movements set forth by Dr. Rugh are upon the plan that every one must adopt if he expects to cure these cases and protect them from relapse. Each surgeon will probably adopt variations of these movements, but their general purpose and plan will be the same.

Posterior and lateral rigidity are most marked and these are the two conditions which must be overcome, so that the flexibility of the spine in these directions shall be made more in accord with the normal. When the normal condition is restored, the individual is cured for the time being, but not permanently. It is exceedingly important that these cases should receive for a long time careful oversight, and that they be watched until they have attained full growth. The girl should not be allowed to become careless in regard to her walking and standing, or in regard to her muscular exercises, until she is eighteen or twenty years of age at least. The muscular tone must be maintained by appropriate exercises, even after the case is considered cured.

In cases with rotation, the question of apparatus may be relegated to the individual ideas of the person treating them; there are cases in which apparatus does possibly assist in giving a better form to the individual. That, unaided by special muscular exercises, it ever benefits a rotated spine is not likely. It is simply a support, to give a better conformation in adults exteriorly, or to hold what has been gained by gymnastics, and it is perfectly proper in old and fixed cases. But in cases in which cure is expected no dependence should be placed upon it, without the added effect of regulated movements. With regard to light and heavy gymnastic exercises there is, of course, the same difference of opinion as there is in regard to heavy and light gymnastics in general. A succession of light movements systematically repeated is, however, far preferable to any system of heavy gymnastics, unless an individual has the time and can give herself absolutely and entirely to this work; but, unfortunately, the majority of cases afflicted with this condition are not able to do this.

Dr. H. Augustus Wilson said that gymnastic exercises are capable of producing and have produced more serious damage and more permanent injury than do properly applied remedial gymnastics. Especially is this noticeable in spinal curvatures in general, because it is now generally understood by the laity that remedial gymnastics give the best results, the more quickly obtained and with less danger of relapse than almost any procedure that has ever been advocated for the treatment of rotary-lateral curvatures. It, however, is very much like the painter, who, when asked how he was able to obtain such wonderful effects, replied that he mixed his paint with brains, and this applies with equal force to gymnastic exercises. The serious danger to be produced by gymnastics has been caused by lay administration, absence of system, absence of any scientific, rational basis and the necessity for resort to first one textbook and then another to obtain a series of exercises that are empirical, and without apparent basis. In gymnasiums and so-called physical institutes, such a plan is carried out, and when the various systems or series of exercises are exhausted there is nothing further to be done. The directors of these institutions are practitioners of medicine, but without medical education and training and therefore without a license to practice medicine. When cases come under the direction of these untrained (at least medically untrained, al-

though possibly well trained as far as gymnastics for the normal individual are concerned) persons, take, for instance, cases of lateral curvature, they put them through a system of gymnastics whether properly applied or not and turn them out at the end of a year "strong, well and cured" patients (?). It has been Dr. Wilson's misfortune to have seen at least twelve cases in which conditions other than scoliosis were present (several were cases of Potts' disease, one a case of comparatively recent fracture of the lumbar vertebræ) and they were all put through the most severe forms of exercise, pulling heavy weights, etc. As an explanation of the plan pursued, reference was made by the gymnasium teachers to some six or eight text-books from which exercises had been taken and advice for curvature of the spine followed. The result has been that, as in the case of the painter referred to, the colors were not mixed with brains and the subject of gymnastics was brought thereby into contempt.

Dr. Rugh has done a great service in placing before the medical profession a definite basis for treatment in cases that are susceptible to it. He has done one thing more by showing how to give the patients themselves an incentive to further work and exercise in the right direction, always under the supervision of a physician. One of the most difficult things in the world to accomplish in physical training is to give the patient an incentive to act in co-operation with the physician in the matter of these exercises. To tell the patient to go to a machine, for instance, and pull chest-weights a certain number of times, will, after a time produce definite results, not always beneficial. If the patient knows that the effect to be produced on himself is a certain one, he will watch constantly to accomplish this, and this co-operation of the patient will far more efficiently and satisfactorily aid in effecting a good result. In this way it is possible for the patient to be instructed by the physician at the right time that eight primary movements of the normal spine constitute the goal to be sought in the correction of these abnormal spines and they will work toward this end and it will enable them to go on far more rapidly, intelligently and satisfactorily.

One of the conclusions in Dr. Rugh's paper, is so important as to deserve special attention, that is, "to make this basis so simple that every physician can readily grasp the underlying principles," and, with the principle in hand, the physician will be able to modify the monotony of forms of exercise to produce important results.

The word "cure" has never been clearly defined. There often seems to be a mistaken notion that cure means entire restoration to normal condition and normal function; such can hardly be the case, or else the cures constantly reported are not cures. Cure must mean simply arrest of destructive processes and restoration as far as possible to a normal condition. If such is the case gymnastics certainly offer the best means of obtaining a cure in rotary lateral curvature, because while they may not and cannot in ultimate bone-deformity of spine produce a restoration to the normal condition, they will produce the nearest approach possible to the re-establishment of normal function and general appearance. One of the most serious mistakes that it if possible to make is to attempt to combine forms of gymnastic exercises, as has been suggested, with directions that the spine should be held straight during the interim by braces and appliances. It is granted that during this interval of the remedial gymnastics false postures may be assumed, but the gain in muscular coordination and improved mobility of the spine is largely lost when restraint of movement is induced by apparatus.

The spine is simply a series of joints, the whole being for convenience considered to be in the form of one joint. Any joint of the body will be described as to its functions just as the spine is. If a joint becomes ankylosed the restoration to normal function will be obtained by following the normal movements, and the same course must be followed with regard to the spine. The more this subject is studied the more it will lead physicians to discourage the disastrous damage of the more or less hap-hazard methods of applying gymnastic treatment at the present time. Such powerful therapeutic measures as remedial gymnastics should be administered only by competent physicians familiar with the pathologic, diagnostic, and physiologic aspects of the subject.

DR. J. K. YOUNG said that orthopedic surgeons have for many years been aiming at the action of the muscles, the complicated combined action of muscles which are exercised. There are at least eight different curves produced in lateral curvature. Very few of these are simple or primary, but they are usually combined together in some form, and the most common form of all is right dorsal primary scoliosis. Surgeons who treat these cases usually combine exercises, so as to fit the particular form of curvature. In this particular form of curvature the object aimed at is to develop the muscles that are weak, to lengthen short muscles and to shorten long muscles, to correct malpositions of the pelvis and the different changes that occur in association with this curve. In right dorsal lateral scoliosis there are on the concave (left) side a number of muscles that are shortened because the bones are too close together. On the other (right) side there are a lot of muscles that are stretched. One limb is shorter than the other. This has usually been spoken of as a short limb, but Dr. Young was inclined to think that in the functional forms it is a long limb. The limb can be shortened on one side and the pelvis may be straightened and fixed firmly in that position. If the muscles of the extremities are well developed, then there is a foundation to build a straight spine on. The curvature of the spine can then be corrected. By plac-

ing the patient with the low shoulder high, with the left arm elevated, certain exercises can be given in this position which will develop muscles on the concave side, and also shorten muscles on convex side. In addition to these movements, others are also of aid, and massage must be given regularly every day, from five to fifteen minutes, by the surgeon himself, or a trained masseuse or an attendant of some kind. The exercises are to be given not empirically, but with a clear understanding that the object of the treatment is to shorten long muscles and lengthen short muscles, to restore the pelvis to its normal position, and to erect upon it a firm, healthy spine. After this has been accomplished, relapses must be prevented. The treatment is intended first to develop weaker muscles, to prevent rotation, and to avert relapse.

Dr. J. P. Mann said that over one thousand different forms of exercises have been collected for the treatment of scoliosis. That is one of the reasons why the treatment does not produce better results, and in giving a basis upon which these deformities can be healed scientifically, Dr. Rugh has done the right thing. There are some other things, however, in the treatment of scoliosis to be borne in mind. In the first place, all cases of scoliosis arise from some local lesion or defect, from some constitutional condition, or, it may be, from a combination of both. In a case of rachitic scoliosis, or in a case in which there is a vertebra that has not developed or several vertebræ—and cases have been reported in which there has been entire absence of two or three of the vertebræ and ribs and clavicle—in such cases as these, of course, the treatment must be entirely different from that in cases of scoliosis due to some local condition. Take some local condition: A child has infantile palsy; the leg is shortened thereby, and from the malposition that the child takes, a scoliosis gradually sets in. Again, some set of muscles around the spine will be affected by paralysis. This is another local condition that may cause scoliosis. These instances sufficiently indicate that the trouble may come from constitutional and also from local causes. When these cases present themselves, the spine is either flexible, and we can straighten the curve more or less, or the spine is fixed and we cannot straighten the curve at all. In some of these spines, from changes in the bones, from pressure and from absorption of the disc of cartillage between the vertebræ, bony ankylosis takes place, making a rigid spine. It is useless in cases of this kind to attempt by any form of either exercise or apparatus, to cure the deformity. It is not useless, however, to try to limit the further progress of the primary curvature or any secondary curvatures that may occur. In the treatment of the flexible cases the plan that Dr. Rugh has outlined certainly gives a good basis to start from. No man can pretend to remember one thousand different forms of exercise, because they do not proceed from any scientific basis. It is merely a feat of memory to treat cases with them, so that with a definite form of exercise, in these cases in which there is flexion of the spine, the surgeon may hope to bring about arrest of the condition in the worst cases and to cure in some of the cases that are not so bad.

As to mechanical treatment: If the patient can be kept under the surgeon's care—that is the flexible cases, when the exercises can be directed and attended to by the patient—no mechanical form of treatment is wise. But, when the patient is not accessible to the physician, or when there is no person to properly direct such exercises, a suitable brace will help to arrest the progress of the trouble.

Dr. Bertha Lewis said that before proceeding with the eight primary movements of the spine described, it as necessary to adopt a method of treatment that will promote the efficiency of the circulatory and respiratory functions, and which, at the same time, does not overlook the fact that the endeavor to improve the muscles, may succeed at the expense of both heart and lungs. To secure the best results, the physician and not the gymnast is the best person to conduct all remedial exercises, provided he or she has been fitted for this work and possesses an interest and patience that are necessary to carry it to successful ends.

The work of Mr. Bernard Roth, of London, is a striking illustration of what can be done on these lines. The "keynote" of his treatment consists first in developmental exercises until the tone of all the voluntary muscles of trunk and limbs has been raised to a working value, by *consecutive* daily treatments, for a period of not less than three months. These are to be followed by prescribed exercises that may be carried out at home. Not only does Mr. Roth require the greatest accuracy and precision in each exercise, but every movement that the patient takes, and her carriage in walking or sitting at rest are cared for. Of equal importance as a remedial measure is the dress of the patient, not merely while exercising, but also that habitually worn should be loose enough for perfect freedom of motion.

With the exception of the work done in the Swedish Institutes, where the Ling system is used, Dr. Lewis has seen no work that produced such successful results as Mr. Roth obtained, and which are largely the result of his careful personal treatment of each case. The orthopedist is no more justified in sending a case of rotary lateral curvature to a gymnasium than in sending a patient to a druggist with a diagnosis and allow the latter to select the remedy.

Dr. Mathilda K. Wallin, of New York City, said that the special movements referred to were not at all new to her, because being brought up in Sweden and a graduate of the Royal Gymnastic Institute, she was already familiar with them. She had, in fact, been taught no others as the primary move-

ments of the trunk, the flexion and extension of the back, the rotation, the circumduction and the side flexion, although the same terms were not used. All the exercises were, according to Ling's system and teachings, divided into the so-called "fundamental positions," and from those the movements or positions as "derivative"—the idea is the same, the working basis, so to speak, the same; only the terms differ.

It has been said that there were too many exercises, but the point is to have the right ones, or to be able to select the right and beneficial ones in each case; to discard the poor ones and use only those that are best. Many of the exercises are used without proper discrimination and are worthless. Physicians ought to be *thoroughly* educated in these matters before attempting to use the exercises in the treatment of scoliosis. They ought to know all the different exercises, not only those of one system or set of gymnastics found in text-books, but they should know them all; their action, their mechanism, when to apply them and how to apply them in all the different cases.

As has been said and emphasized, a patient should never be sent to a gynasium for the treatment of scoliosis or for any treatment. First of all, the gymnasium people do not know anything about the pathologic conditions, as a rule; they do not know how to treat a patient, who may often grow worse instead of better; and secondly, it should be understood that a gymnasium is for well people who wish to keep their health and strength and for those who need general development.

There is no question that gymnastics constitute the only measure or the best measure in the treatment of lateral curvatures of the spine, and the gymnastics should not be too *light*, either, after the general development and muscular tone are first obtained, nor too heavy or too strong.

Of all the different systems, there is none that compares with the so-called "self-correcting method," combined with the Ling system. If the two are combined the results are greater or more successful than by any other system; but it takes an immense amount of time; the patients have to work steadily, and some give up, in fact, the whole day to it. The system is carried on in Norway, and is hardly known outside of that country. An apparatus similar to the suspension apparatus is used, each child having its bench for resting and a belt with handles to take hold of for support and fixation of the shoulders. The idea, in a few words, as it is impossible to describe it intelligently without demonstration of the movements, is that the patient, in a fixed and correct position, by the efforts of his own will and work—certain movements—shall strive and be able by this muscular effort to steadily extend, correct and straighten the spine and its curves. Wonderful results may be accomplished by this method, in combination with Ling's gymnastics, but the patients come and work almost the whole day. with proper rest between the exercises. Of course they are almost all children, and come for the purpose of being cured and can generally afford the time.

Dr. Benjamin Lee said that with regard to the general question of scoliosis or rotary lateral curvature, he has long been of the opinion that the primary curvature does not, as a rule, take place in the dorsal region, but in the lumbar region and he agreed heartily with the remarks as regards the importance of establishing a firm basis for the spine in the pelvis. It is necessary to correct the deformity of the pelvis in order to correct the deformity of the spine that rests upon it. It is therefore Dr. Lee's rule in the treatment of these cases, and especially of those seen early, to pay especial attention to the lumbar portion of the spinal column and to correct any deformities and irregular muscular contractions that exist in the lumbar region and in the upper femoral region. There are in almost every case of lateral curvature contractions more or less marked of the abductors and of the psoas muscles. Attention should be directed to these groups of muscles. As regards the personal corrective treatment alluded to, it is Dr. Lee's habit to instruct patients to make use several times a day when at home of certain postural treatment, which after a little time they are able to carry on quite intelligently themselves, and this proves an important addition to the treatment in the gymnasium.

As regards the cure of lateral curvature everyone knows that to attempt to cure advanced cases of lateral curvature of the spine is to undertake an impossibility, that is to say, to restore the patient to symmetry; but there are other things than symmetry to be considered in a patient suffering from lateral curvature. Very serious conditions of the lungs and of the heart are present as a result of advanced lateral curvature, and no case is so advanced that the patient may not be given reasonable hope of checking further deformity and of so increasing the chest-capacity as to relieve the heart and lungs from at least a portion of the disability under which they are suffering. The physician is, therefore, warranted in undertaking the treatment of cases of very serious deformity, when he cannot at all hope to restore the patient to symmetry, with the expectation of increasing the chest-capacity and in that way relieving the pressure on the heart and lungs.

Dr. Young said that there is a difference of opinion as to whether or not right lateral scoliosis is the most common form of spinal curvature. Abroad left lumbar scoliosis is said to be the most common and in this country right dorsal scoliosis, sixty-six per cent. of these occurring to about thirty-three per cent. of the left; the left lumbar then being still less frequent than the left dorsal. Dr. Young's remarks were confined entirely to the treatment of the atonic or mild functional

cases of scoliosis, following the distinction made by Dr. Willard, of cases of functional lateral curvature and those in which rotation has occurred. A picture was shown of a model with a curvature, who had been posing for two years, standing constantly for long periods upon the right limb and in this way developing a left primary scoliosis.

DR. A. O. J. KELLY read a paper upon "THE NEURON."

and exhibited specimens and diagrammatic representations of its morphologic characteristics.

[See page 711].

DISCUSSION.

DR. CHARLES K. MILLS said that the word "neuron" was first used about 1884 by Professor Wilder of Cornell University, who applied the term to describe the cerebrospinal axis, but afterwards discarded this usage for "neuraxis." From some remarks made a few months ago by Professor Wilder, he seems inclined to return to the use of "neuron" for cerebrospinal axis. Waldeyer, about 1891, suggested the word neuron in the sense used by Dr. Kelly. The term itself and the ideas that circle around it have a certain fascination; even the mere use of the term has done something to clarify our ideas with regard to the structure and functions of the nervous system. Dr. Mills was personally inclined to the views as to the terminology of the nerve-cell suggested by Schäfer, which have been adopted by Donaldson of the Chicago University. In teaching and writing Dr. Mills largely disregards the use of the word "neuron," but it is necessary to use it as a synonym, at least, as it has doubtless come to stay. A neuron after all is a nerve-cell. Accepting it in Waldeyer's sense, as used in describing the anatomic nervous unit, it is the nerve-cell and all of its processes, both dendrites and axis-cylinders. The word "neuron" is certainly sometimes convenient in description, and yet this convenience in its use may occasionally lead to trouble, particularly in the description of such a complicated nervous apparatus as the auditory, when it becomes necessary to speak of neurons of the first order, second order, third order, etc. In this way more or less confusion in teaching and writing may arise. Physiologic misapprehension may result from laying too much stress upon the neuron as an independent anatomic unit. The discovery that the neurons, or nerve-cells are independent anatomic units has let in more light upon nervous structure and action both physiologic and pathologic than anything that has been done in recent years. It must not be forgotten, however, that there are myriads of these nerve-cells in the nervous system, and that while they are independent anatomic units (and this point should be strongly emphasized) only in rare instances are they functionally independent. They are arranged together in special groups, and have many elaborate relations to each other, and therefore, in the physiologic sense little or no independence of action.

When it is recalled that only a few years ago the farthest shore to be reached in the knowledge of nervous structure was indicated by the five or six cortical layers of Meynert and Bevan Lewis, and that now in a single stratum of a single layer of the cortex some thirteen or fourteen independent systems of cells and fibers can be traced, one cannot but be impressed with the great value of the studies of the neuron or nerve-cell, made possible by new methods of staining. What such discoveries will lead to in the future no man can tell. Dr. Kelly has indicated in a few directions the results that have already been achieved, particularly in the pathology of chronic alcoholism and some of the forms of dementia.

DR. F. X. DERCUM said that to him terminology is of secondary importance. It is the substance of one's thoughts which is of the most significance. He held that the term neuron, if used at all, should be applied to the nervous integer and not to a mere part thereof. Schäfer's suggestion to call the nerve-fiber the neuron would lead to endless confusion.

The term neuron should be applied to the nerve-cell, including all of its processes, both the dendrites and the neuraxon. The word cell should be restricted to the cell-body. The dendrites are of course a part of the cell, just as the pseudopoda of the ameba are part of the cell. Still it appears better to speak of them separately as dendrites, just as we speak of the process that forms the nerve-fiber as the axon.

These facts have radically changed our conceptions of the nervous system. We no longer speak of cells and fibers, of trophic or other centers, but regard the nervous system as made up simply of cellular elements, as are all the other tissues.

Our misconceptions in the past have been largely due to our physical impressions. We often reason automatically without stopping to think whether our conceptions are legitimate. Thus when thinking of the nerve-cell, we habitually call to mind a stained hematoxylin or carmine preparation, or now, perhaps, we form a mental picture of the blackened spider-like appearance of the cell as stained by the Golgi method. These conceptions have led us to regard the nerve-cell as something absolutely fixed. The truth is, the nerve-cell is a minute mass of protoplasm with living extensions running from it in various directions, and this conception leads naturally to the idea that the nerve-cells possess some power of mobility. This is as interesting a suggestion as any of the others that are conveyed by these new facts. It is very probable that the nerve-cells have some real mobility, although Cajal suggests that this is indirect. He makes the neuroglia cells the active integers. It seems to be far more rational—far more in keeping with what we know of cell-

life—to accept the view that the nerve-cells have independent movement.

There is one observation made by a German investigator, Wiedersheim, in one of the transparent enteromostraca, which proves absolutely that the nerve-cells in some of the lower forms really do move.

The possibilities that the movement of the nerve-cell opens up are exceedingly interesting.

DR. J. K. MITCHELL said that innumerable suggestions arise for possible applications of the theory of the neuron. The conceptions of interference with transmission of nerve-influence that can be deduced from the infinite complexity of the neuron—communications are much wider than in the old, ruder conception of the transmission by nerve-cells practically united into one group—suggests how very small disturbances of the neuron connections might make very great change in the amount and character of transmission of influence, and infinite possibilities in the subject of the regeneration and degeneration of so many minute and intricate fibers spreading in various directions.

DR. A. O. J. KELLY said that the term neuron, being more or less new, has a certain fascination, and having been suggested to describe a structure, the individuality of which heretofore was not even suspected, it has justification in fact and will persist. It is doubtless its availability that has caused its almost universal adoption. In the paper read, the word has been used to describe the entire cell, including its prolongations, and not after the very confusing manner that Schäfer has seen fit to employ it. As knowledge increases, this terminology may be changed, but probably not materially. The terms that have been used are those at present more generally adopted. Certain of the physiologic and pathologic suggestions, to which allusion has been made, have opened up new thoughts, and it is just beginning to be understood how much the future may have to offer.

PERISCOPE.

NEWS AND MISCELLANY.

That impairment of the integrity of the nervous system, and especially of the pneumogastric nerves, leads to some form of pulmonary disorganization and very frequently to that condition which is known as pulmonary consumption, is contended by Dr. I. J. Mays, in the *Journal of Nervous and Mental Diseases.* Owing to their manner of actions, the poisons may be separated into two groups, those which bring about a slow intoxication of the nervous system, and which induce a crop of chronic pulmonary diseases; and those which act more or less acutely and which produce a crop of acute diseases of the lungs and which subsequently merge into well settled phthisis. The former group includes alcohol, syphilis, mercury, lead and uric acid, while the latter comprises typhoid fever, diphtheria, measles, whooping-cough, mumps and influenza. To these poisons might be added those which engender beriberi, pellagra and celebro-spinal meningitis.

While the ultimate trend of all these poisons is to undermine the nervous system, and to bring on pulmonary disorder, the chronicity or the acuteness of the latter process depends in a large measure on the virulency of the poison, on the amount and frequency with which it is introduced, on the persistency of its action, and on the facility or difficulty with which it is excreted by the body. Alcohol is eliminated rapidly through the lungs and the kidneys, and would not be attended by such serious danger to the economy, were it not for the fact that the chronic "tippler" takes it frequently and for a protracted period. In the case of syphilis, a single injection is capable of salivating the whole body for a long time. Mercury and lead enter the body gradually, being inhaled or ingested, and are eliminated exceedingly slowly. A comparatively small quantity of these poisons therefore suffices to work grave and irreparable injury to the nervous system. Of all the poisons in the first group, uric acid is probably the most harmless, and being a normal constitutent of the body, it only becomes dangerous when present in excessive quantity and for a protracted period. The members of the second group also differ somewhat in the rapidity with which they generate pulmonary disintegration. The poisons of whooping-cough and influenza having a special affinity for the pulmonary nerves, bring about this result more rapidly and in a larger number of instances than is the case with those of typhoid fever, diphtheria, measles and mumps, whose action on the nervous system is probably more general.

It is hardly necessary to state that well matured bananas that have not begun to decay are a very wholesome and nutritious food. No more than that the biggest apples or pears always are the best, are the biggest bananas the finest flavored; on the contrary, the larger they are the more mealy they taste. The cultivation of bananas, although it has in the last ten years assumed gigantic proportions, may still be said to be in its infancy. Almost every part of the plant can be used for some useful purpose; the stalk forms an excellent material for the manufacture of paper, or

the fibre might be extracted; the peel of the fruit will make excellent indelible ink; the green fruit dried can be converted into wholesome flour. The fruit, when ripe, consists of seventy-four per cent. of water, of the remaining twenty-six parts twenty are sugar and two gluten of flesh forming food. Hence like rice though exceedingly nutritious, it requires the addition of some more nitrogenous material. Green bananas, boiled tender, if given to the hens cut up, will make them lay more eggs than any other food. Dried bananas, or banana figs as they are called, are now in the market, and will undoubtedly soon be a great article of trade as soon as found by the schoolboy. They are sweet, wholesome and nourishing.—*The Sanitarian.*

Any form of exercise or sport which makes serious demands on the attention, on quickness of eye and hand, and on endurance, ought to be taken up by people who have reached middle life, and are engaged in sedentary occupation, only with great circumspection. The lesson has been learnt by Alpine climbers through many bitter experiences. It is pretty generally held by them that most of the fatal accidents in mountain climbing occur through the failure at the critical moment of some man who has taken to mountaineering too late in life, and who is, perhaps, also out of condition. An old dog cannot be taught tricks, according to the proverb; and though it is disagreeable to have to realize that we have passed the age when we can excel in a new pastime requiring special skill to avoid accident, and youthful adaptability and elasticity to avoid overstrain, it is the part of wisdom to accept the inevitable. It is said that a first-rate tennis player will remain first-rate for twenty years or more, but no man ever became first-rate who did not begin as a lad, almost as a boy. There is no reason why middle-aged men, and even those who have passed middle-age, should not take to cycling; but it should be with a frank recognition of the limitations which age imposes. Great speed, long distances, and hill climbing put a strain upon the constitution, and will find out the weak places—the parts of the system which are aging faster, perhaps, than the rest—the heart, it may be, or the vessels of the brain. So, also, in regard to riding a bicycle in crowded thoroughfares, the strain on the attention is considerable, the risk not small, if a man has lost the quickness of youth, or of wont from youth.—*British Medical Journal.*

The practical importance of those forms of edema which are not dependent upon disturbances of circulation or chronic nephritis has been recently discussed by Dr. B. Beer, of Vienna. He says, according to *The New York Medical Times*, that a variety of edema in the superficial layers of the skin is observed where the patients complain that the pressure of the clothes, etc., causes a temporary and superficial edema, which with paresthesia, remains for quite a while in the skin. In certain exanthems, dermographismus and urticaria, these appear more distinctly and extend into large patches. The skin may be thrown into folds after they have disappeared. More deeply seated edema of an inflammatory origin may be due to pus formation, where with formation of but a small pus focus the edema may be extensive.

In the subcutaneous cellular tissue or the perimysium from toxic influences considerable edema may be noticed as with dermomyositis, but without apparent pus formation. These may be followed by absorption of the fluid, formation of fat or cellular tissue, with consequent cicitricial retraction, which is most distinctly observed in scleroderma. Sometimes these retractive cicatricial bands lead to the imbedding of fat, with simulation of lipomata. By this same process affecting the muscular tissue an apparent muscular atrophy is produced, which will disappear under treatment by massage. A still more serious termination is the formation of the cutis laxa and the cutis atrophica of the dermatologists. The writer called attention to a case which he had observed where a partial acromegalia had developed after a fall upon the right arm; an edema of a gelatinous appearance had developed upon the face, chest, etc., which disappeared after the administration of alkalies and treatment by massage. The cause of edema is frequently to be sought in a derangement of the lymph currents.

Dr. Buka, Professor in the Polytechnic College at Charlottenburg, near Berlin, has been successful in obtaining Roentgen rays of such intensity that he has been able to photograph objects at a considerably greater distance from the tube than heretofore. In his opinion this result is a distant improvement in the medical application of skiagraphy; for, he says, the apparent distortion of the bones are more truly rendered by the shadow pictures the further the objects are placed from the source of the rays. Very probably, too, the burning of the skin, which has been frequently observed as an effect of the rays, will be lessened by greater distance.—*British Medical Journal.*

The Alumni of Jefferson Medical College feted the recently elected president of the Board of Trustees, at the Hotel Bellevue. Dr. A. K. Minich acted as chairman of the banquet and Mr. Potter's remarks on the healing art in general and on Jefferson College in particular, were received with hearty applause. Addresses were made by William M. Singerly, Dr. S. Weir Mitchell, Prof. W. M. L. Coplin and others. Some of those present were; L. Clarke Davis, Judge Arnold, Col. James Elverson, Hon. H. K. Boyer, Prof. John H. Brinton, Prof. H. C. Chapman, Dr. John C. Da Costa, Dr. P. Chalmers Da Costa, Prof. E. P. Davis, Prof. F. X. Dercum, Prof. G. E. De

Schweinitz, Prof. R. Douglass, Prof. Austin Flint, Prof. W. S. Forbes, Simon Gratz, Prof. H. F. Hansell, Prof. Hobart A. Hare, Prof. W. J. Hearn, Prof. W. J. Holland, Prof. Orvill Horwitz, Senator Penrose, Prof. J. B. Roberts, Prof. W. W. Keen, Charles H. Krumbhaar, Prof. D. B. Kyle. G. M. Lecca, the Italian Consul; Prof. E. E. Montgomery, Dr. J. Thorington, Louis C. Vanuxem, Prof. H. A. Wilson and many other notable men.

Relations of gall-stones to cancer of gall-bladder. Dr. Kelynack, from considerations of the records he has had access to and observation of cases, is driven to the following conclusions: 1. Gall-stones are met with in from six to ten per cent. of all cases submitted to a pathological examination. 2. Primary cancer of the gall-bladder occasionally occurs associated with gall-stones. 3. In the large majority of cases primary cancer of the gall-bladder is associated with gall-stones. 4. The presence of gall-stones in certain subjects, and doubtless in connection with other predisposing conditions, favors a cancerous development. — *Practitioner, April* 1896.

The culture and inoculation of coli bacillus and its toxines, to determine whether immunity can be conferred by inoculation, has recently been investigated by M. M. Albarrard and Mosuy. The importance of the investigation lies in the fact that the surgeon producing wittingly a urethral or vesical trauma in patients whose urine contains this organism, necessarily exposes the patient to the risks of systemic infection; and to be able by previous serum inoculations to induce immunity from the coli bacillus infection would be of incalculable advantage. The results of the work here reported are of an encouraging nature, and the authors believe that by subcutaneous and intra-vesical injection of the serum good results have been and will be obtained.—*Ann. des Mal. Genito-Urin.*

The growing practice of sterilizing milk for infants and children, invaluable as this protection is for temporary use during hot weather in cities, often leaves anæmia and tonelessness in its train if its use be persisted in. There is a value in the vital properties of fresh milk not to be produced or retained by any artificial process.—J. MADISON TAYLOR in *Annals of Hygiene.*

A series of experiments by Dr. Mary Sherwood (*Johns Hopkins Hospital Reports*) to test the relative germicidal powers of oxalic acid and potassium permanganate, seems to indicate that the solution of oxalic acid was the real germicide. Using bits of surgeon's silk, dipped in cultures of *staphylococcus pyogenes*, it was found that potassium permanganate, in saturated solutions, did not sterilize them, either at the room temperature or at a temperature of 46° C., by exposure of from one to ten minutes. On the other hand, oxalic acid in saturated solution, at a temperature of 40° to 45° C., sterilized the insected threads exposed to its action for one minute, showing the oxalic acid to be the more powerful germicide.

Suppose a person to be tired out by overwork of any kind to feel nervous, irritable, and worn, to be absolutely certain that bed means only tossing for hours in an unhappy wakefulness. We all know this condition of the body and mind. Turn on the hot water in the bath-room and soak in the hot bath until the drowsy feeling comes, which will be within three minutes; rub yourself briskly with a coarse Turkish towel until the body is perfectly dry, and then go to bed. You will sleep the sleep of the just, and rise in the morning wondering how you could have felt so badly the night before. The bath has saved many a one from a sleepless night, if not from a severe headache the next day.—DR. CYRUS EDSON, in June *Ladies' Home Journal.*

It is a grave mistake for physicians and friends to conceal from a consumptive patient the real nature of the malady after a correct diagnosis has been made, says a writer in *The Health Magazine.* In view of the contagious principle of the consumptive germ and the methods of prevention brought to light through scientific investigation, it is little less than criminal to withhold such facts under the false notion that it might hasten the victim's decline were he conscious of his malady. For the sake of others not only but for his own sake the patient should know the facts, for herein lies the means of protection. After receiving the most explicit instructions regarding the disposal of sputa and dejecta, that the disease may not be communicated to others, the patient should be warned of the possibility of reinfection. Many a fatal case could doubtless have been brought to recovery had not the subject further infected himself as one portion of the lung or other diseased organ progressed toward recovery. We have known many instances where the cases were allowed to use handkerchiefs all night long, in which to expectorate. The sputa becoming dry could not but prove a prolific source of reinfection when brought to the face as the thousands of bacilli were being liberated from its folds and inhaled by the patient.

THE
MEDICAL AND SURGICAL REPORTER.

No. 2075. SATURDAY, DECEMBER 12, 1896. VOL. LXXV—No. 24

ORIGINAL ARTICLES.

A FEW NOTES ON THE GENERAL AND SPECIAL FEATURES OF THE ANATOMY AND HISTOLOGY OF MUCOUS MEMBRANES.*

THOMAS H. MANLEY, M. D.,† NEW YORK.

The importance of a correct knowledge of the structural elements of mucous membrane can be estimated when we consider their vast extent, their complexity of function, and the *rôle* they play in the etiology, the pathology and the therapy of disease.

In the early evolution of fetal development, the integument, like that of the piscatorial amphibians and batrachian species of adult life, is covered by a thick layer of mucoid material. Up to about the fifth month the surface epithelium, as well as that lining the alimentary tract, secretes mucus. At this stage differentiation of structure and function advances, while the sebaceous crypts are formed and their secretions cover the integument.

The analogy in the gross anatomy and finer elements of the skin and mucous membrance is singularly striking, and yet when we study them carefully the contrast is amply sufficient to readily explain some of the wide differences in function. Thus, each contains smooth muscle fibres, and other structural elements each identical with the other, the great distinction consisting in the relative proportion and arrangement.

The substratum of all the mucous membranes is highly vascular. The lymphoid layer is thicker than in the integument, attaining its maximum of development in the naso-pharyngal passages. The papillary layer or the *rete mucosum* is supported by a loosely formed layer of myxomatous tissue, the mucosa, with its muscle fibres, underneath which is the submucosa, with its muscle fibres, from which spring the vessels, nerves and lymphatics.

The above, with or without a glandular apparatus, constitutes what is designated as a mucous membrane. It should be remembered that we may have mucous secreting surfaces which are not mucous membranes; as in the alveolar spaces of the pulmonary air-vesicles, (which consist of only a single layer of flat epithelial plates or columnar epi-

*Presented at the meeting of the Celtic Medical Society of New York, October 22, 1896.

†Professor of Surgery, New York Clinical School of Medicine.

thelium), the semi-circular passages in the labyrinth, the renal tubules, and the lacunar pits of the ethmoidal sinuses, and in other situations.

The mucous membranes differ very widely in their consistence, thickness and mobility. For example, in the stomach the membrane is exceedingly thick and freely movable on the submucosa. In the small intestine it constitutes more than one-third of the entire thickness of the bowel, undergoing great reduction in thickness as the colon is reached; again augmenting enormously in the rectum. On the contrary, where it rests on an osseous or cartilaginous surface, its underlying stroma is so interlaced with the fibers of the periosteum that it is quite fixed at the base.

The mucous membranes which are properly so-called are all studded or clothed by four varieties of epithelium,—the flat, columnar, cuboidal, and ciliated. The mucous membrane of the bladder and the alimentary canal provides a lining investment for all the passages which drain into them. In these the epithelium at the *embouchures* is at first stratified, then as the tube ramifies and is reduced in thickness, it is lined only by a single row of cuboidal plates, the finer primitive terminal lamina being covered by pavement epithelium.

The greater part of the mucous surfaces are everywhere occupied by the openings of hollowed spaces of glands, sinuses and ducts, many of the larger proceeding from conglomerate glands, others from acinic lobules, the smaller from simple or sacculated tubes. In the mouth and naso-pharynx we notice a very large number of canalicular passages in communication with them, which, although widely differing in function, are nevertheless clad by mucous membranes. Thus we have the openings of the tear-ducts, the frontal, ethmoidal, sphenoidal and maxillary sinuses, and, indirectly, the mastoidal through the Eustachian tubes, and all the salivary glands. Imbedded in the tonsil are several deep saccular crypts with narrow orifices and tortuous passages.

Besides these, we sometimes have, as relics of defective fetal development, inclosed branchial clefts. As we descend the alimentary tract we meet that important passage which drains the secretions from the liver and pancreas, corresponding in general features.

The most important acquisition of all to him who practices the healing art, is a careful study and practical knowledge of the histologic elements of the mucous membrane and its peculiarities in the genito-urinary tract. By a careful and analytic study of the morphology of the epithelial elements of this tract an enormous flood of light is let in on a group of serious maladies of a local and constitutional origin hitherto impossible of definite recognition. We will note at the outset that the mucous membrane of the vagina is plicated or thrown into folds, that it is devoid of mucous glands and that its pavement epithelium is remarkable and characteristic for the large size of the cells.

Some recent authors have denied the existence of mucous glands in the internal uterine surfaces, but anyone who will take the trouble to decide the matter for himself will easily find indisputable evidence of fully developed utricular glands. The openings into the Fallopian tubes and their canals are lined by ciliated columnar epithelium. The ovary itself, although without tubular exit, is an epithelial organ with a quite perfect adenoid structure for the secretion and re-absorption of a mucoid substance. Indeed, the primitive and dominant physiologic element of a matured ovum is mucous in nature.

Coming to the urinary tract, we find the greatest complexity of arrangement of anatomy and peculiarities of histology of its mucous membrane. For a full and clear description of this structure, reference may be had to Heitzman's unrivalled work on this subject.

It may be said, however, that not only is the arrangement different and the histologic elements of the mucous membranes dissimilar in the urethra, the seminal tubules, the bladder, the ureter, the pelvis and the renal cortex, but in the ureter itself in its various segments the morphologic characters of the epithelium are widely dissimilar.

The most vital and essential part of a mucous membrane, its epithelial investment, is entirely avascular. The capillary loops pierce the papillary layer, penetrating the submucosa, the mucosa and the lymphoid ridge, but through ledges of epithelium they cannot penetrate.

Around and about the gland-coils and acini we may note the tortuous spiral course of the corpuscular elements, from which demonstrated physiologic fact we must conclude that this broad expanse of protoplasmic elements derives its nutrition from the fluid elements of the blood, from the plasma, through the plasmic tracts. It also incontestibly proves that all the elements, from whatever source, taken up by the blood or the lacteal vessels must first be acted upon by the stratified layers of epithelium through which they pass. Besides it shows how, as an eliminating structure, the final change takes place in the epithelium on the surface.

There are certain phenomena which would go a certain distance to controvert this view. For example, particles of quicksilver may be found in the blood after its ingestion by the stomach; and minute globules of fat as large as, or larger than, epithelium cells, may at any time be found in the lacteals.

The elder Heitzman at one time believed he had discovered openings in Lieberkuhn's crypts, which would partly account for the phenomena; but his views did not receive the approval of other eminent investigators and he later abandoned them himself.

SOME OF THE FUNCTIONS OF THE MUCOUS MEMBRANES.

First in importance, the mucous membranes and their epithelial prolongations serve as a protective mantle to the less highly vitalized elements beneath.

Second. Most of them possess the dual property of taking up and discharging various substances. With their glandular equipments in the mucosa, they occupy a leading position in all the vital and chemical changes in the body; in tissue metabolism, degenerative and regenerative processes, their place is a dominant one.

Third. In the healthy state of the system they provide formidable barriers against germ invasion or against the introduction into the system of putrescent noxious elements. With their serried, close columns of epithelial cells, they resist the ingress of, or, at all events, neutralize or destroy in a large measure, lethal elements in the atmosphere and in the food we consume.

Fourth. The regenerative power of the mucous membrane and its epithelia is most extraordinary. This is commonly noted in the parts most exposed to trauma and the action of chemical irritants, as in the mouth, the respiratory passages, the stomach, the rectum, the urinary and the gall bladder. In the genital organs of a woman it is most remarkable.

Dr. H. M. Collyer, of New York, at a late meeting of the Metropolitan Medical Society, presented one of the most extraordinary pathologic specimens on record. It consisted of a cast of the entire urethra of the male adult. The young man gave a history of a sexual infection. But here was a sort of croupous tube with all the outlines and form of the normal urethra. The doctor believed that it was the slough thrown off by gangrene. Drs. William Gottheil, Mauley, and others in the discussion declared it quite impossible that the entire urethra could be destroyed and the patient recover full functional use of the passages, as he has, and maintained that the specimen must consist only of a diphtheritic or croupous formation acquired from a female so infected. Dr. Collyer kindly allowed me to make a section of the specimen for histologic and pathologic analysis, when it was demonstrated that Dr. Collyer was correct, as it was shown that the entire mucous membrane and spongy body were detached and thrown off. But no stricture, no stenosis, nor obstruction has followed, which go to show complete regeneration of the spongy body, mucosa and all.

Fifth. Neither the urinary nor the gall bladder have any mucous glands. Repeated experiments have quite conclusively demonstrated that the normal urinary bladder possesses no absorbing power; none to poisons in solution, except the corrosive irritants. It is probable that the colon absorbs very little, or none, of its own contents, and it still remains a much disputed question whether or not the rectum and sigmoid flexure can absorb and assimilate non-digested proteids, or carbo-hydrates.

Sixth. It is well to remember that the mucous membranes in most situations are constantly shedding the worn-out surface epithelium.

TEN THINGS EITHER KNOWN OR WORTH KNOWING.

WALTER PARCELLS, M. D., LEWISTOWN, PA.

Marie Antoinette and Louis XVI., so the story goes, might have found safety in exile had they not delayed to have a shoe nailed on the foot of one of the carriage horses. Two royal heads under the guillotine, the destiny of France changed and the history of all Europe somewhat altered by so trifling a matter as a horse losing a shoe! And this is the moral: Despise not the things of low degree.

We physicians too often see death win the contest because of some minor symptom that is beyond our power to control. Successful medication frequently depends not upon what we give, but how we give it.

Suppose a case of this kind: Obstipation of the bowels with frequent and distressing acts of vomiting. Cathartics are rejected by the stomach and enemas, though oft repeated, have entirely failed.

Plainly we must get the bowels opened, get an "action downward," and then the secretion of the stomach, now abnormally profuse, will find an outlet through the way ordained by nature.

We must give a medicine that has undoubted cathartic action. What shall it be? Epsom salts? The stomach will reject it at once. True, under ordinary circumstances, but not if prepared in this way: Put a tablespoonful in a teacup and add two or three tablespoonfuls of *boiling* water, stir well, decant and reject the residum. Add a little lemon juice, let the mixture cool and give to the patient. If in the country, beyond the reach of lemons, vinegar will make a fourth-rate substitute for the lemon juice. Repeat the dose every four hours until the bowels respond. The quantity of water may be varied to suit the caprice of the patient.

Epsom salts prepared in this manner make a draught soothing to the stomach and so agreeable to the taste that I dare say if a chemist would suggest some ingredient additional that will give it the power to make toy balloons of the human stomach, burst the corset strings of esthetic femininity and, by its regurgitant action, irritate the posterior nares, then have it dispensed by the aid of a gilded fountain with a smiling and handsome drug clerk attachment, it would rival in popularity that abominable adjunct to modern civilization called soda water.

I would claim the discovery of this plan of giving salts were it not for the fact that many years ago, thrilled by the great eloquence of Wendell Phillips when lecturing on the "Lost Arts," I became a proselyte to the doctrine that "There is nothing new under the sun."

Some two decades ago I discovered that the hypodermatic syringe was an excellent substitute for the unsatisfactory exploring needle, but about the same time all other surgeons in the civilized world made the same discovery.

All physicians have noted the annoyance caused by the piston of the syringe becoming so dry that the instrument will not work when needed, the patient with hepatic colic for example shouting for relief, while the doctor is nervously manipulating the instrument in hot water. I will risk the assertion that *some* physicians do not yet know that after use, if the syringe is placed under water with the piston withdrawn and the piston is then forced down again, a sufficient quantity of water will be pumped in *above* the piston to keep the instrument in working order for many days at least.

Soft rubber goods rapidly deteriorate by the destruction of the material of which they are made. This rotting process is supposed to be due to the action of the atmosphere and moisture. We cannot keep them in a vacuum, but my Esmarch's bandage, now fully eighteen years old, is still unimpaired; the result probably of always keeping it in a small, tightly-closed tin can, where it has been but little exposed to atmospheric changes.

It is said that an easy way to take a pill is to place it under the tongue and

take a swallow of water, while thinking of something else. The first time this plan is tried the patient is apt to look about for something he has lost, being under the impression that he has dropped the pill on the floor.

After using a thermometer of the self-registering type, the detached portion of the column of mercury is frequently jarred down again by holding the instrument between the thumb and first finger and striking the palm against the other hand. The object will be more easily accomplished by holding the instrument in the same way and giving it a quick flourish through the air, in the manner that a musical director swings the baton when he accents the music at the count, "*one.*"

After using flaxseed or other poultices in treating small children for pneumonia, there is danger of the little patient becoming chilled by the sudden discontinuance of the application. Use should immediately be made of the cotton wool jacket, which is easily constructed in this way: Take a sheet of cotton wool sufficiently large and cut a hole through the center and slip it over the child's head, and bring down the loose ends of the sheet, fore and aft. Over all place a shirt, and the child will be thoroughly enveloped down to the waist. Direct the nurse to pull out a portion of the cotton each day during convalescence until it is all removed.

When making external applications in throat troubles of a tonsillitic nature, if the bandage is placed around the neck, the remedy applied will fall below the point needed. The bandage must be brought up over the head and the ends fastened with a safety pin at the point where the two parietal bones unite with each other and with the occipital. This will bring the bandage directly over the ears, causing discomfort and annoyance, easily remedied, however, by cutting holes in the bandage for the ears to pass through. The ears will then act as a valuable aid in keeping the bandage *in situ*. Once, when using a piece of fat meat in this way, I got a valuable hint from the grandmother, who, to prevent the porcine remedy from slipping out, had stitched it fast to the bandage with a needle and thread.

Another old lady surprised me, when I was wrestling with a recalcitrant poultice which I was vainly trying to keep in juxtaposition to an abscess on the parietal prominence of a restless baby's head, by suggesting that she could hastily construct a night-cap out of a piece of old muslin. And why should not the night-cap be made a part of the well-equipped, modern surgeon's armamentarium? The proverbial old woman is not always a nuisance in the sick room. What shall we say of her, however, in the following case?

Two medical friends, reputable surgeons, were called about the third day after the receipt of the injury to attend a neglected case of incised wound of the thigh. Secondary hemorrhage was alarming. For two days they tried hemostatics, bandages, etc., and ultimately etherized the patient and searched for bleeding vessels. They found none, owing to the inflamed and suppurating condition of the wound. The following night bleeding returned, as bad as ever. An old woman in the neighborhood could "stop blood." She made some unintelligible hieroglyphics on a piece of paper and directed the messenger to take it home and tie it on the young man's ankle. This was done, the hemorrhage stopped and never returned during the healing of the wound. How did she stop that blood, or was it simply a case of *post hoc, ergo propter hoc*?

The patient was in the throes of death's alarm, his heart was thumping like a trip-hammer; he had faith in the new remedy and when it was applied, his mind became calm and serene and so did his heart's action, the *vis a tergo* was lessened and the hemorrhage stopped. Let us be just and give the old woman some credit. If it is the proper thing to "Give the devil his due," we must also respect the rights of his agents.

Bobby (to the visiting pastor)—Say, what is that hole in the top of your hat for?

The Pastor (wishing to be instructive)—Don't you know? Now, try and guess.

Bobby—Oh, I know! Pop says you talk through your hat, and that must be the hole it goes through.—*Puck.*

OBSERVATIONS IN ANESTHESIA WITH MODERN ANESTHETICS.

FRANCIS F. FORWOOD, M.D., CHESTER, PA.

I will merely undertake to-day to give a few observations on local and general anesthesia and the agents used in producing the condition, also with a view to its necessity in varied cases which come under the general practice of medicine, either in surgical procedure, obstetrics or in diagnosticating abdominal tumors, joint diseases, or in cases which we suspect are those of malingering.

Where the surgeon has ample time in a fixed operation, there are certain rules which should always be carried out, in order to prevent collapse, which may sometimes occur, in cases attended with shock as well as in people with fatty hearts, and in that class of cases known to possess "surgical kidney."

Heart disease, however, is not a contra-indication to surgical anesthesia. Should urin analysis show that albumin be present, the peril of operating is greater and it is necessary to proceed very cautiously, if it should be impossible to postpone the operation. Give a purgative the night previous and allow no breakfast if you intend operating in the morning, but if in the afternoon give a small amount of beef tea, coffee, or brandy, but in any event do not allow food within three hours of operation. Vomiting must occur if the stomach contains any food and if it be liquid it will do no harm, should it get into the trachea during vomiting. Yet great cardiac weakness may be produced by retching which precedes and follows anesthesia.

False teeth should be removed. A pillow should not be used unless the exigencies of the case demand it. Remove all constriction around the neck, chest and abdomen. Have near at hand and ready for immediate use a pair of tongue forceps, a hypodermatic syringe, with solutions of strychnia, alcohol, digitalis and brandy. Many surgeons give a hypodermatic injection of morphia and atropia to steady the heart prior to operating.

The two favorite anesthetics, chloroform and ether, are usually at our command. While chloroform is considered more dangerous, it is more agreeable and not so irritating to the kidneys and lungs. It is also quicker in many ways. It produces anesthesia sooner than ether, and the patient is sooner over its effects and is quieter; however, the after vomiting lasts longer than that produced by ether. Chloroform may induce a sudden and fatal syncope through paralysis of the heart; hence if there is a heart lesion use ether. Ether kills through its effect on respiration; therefore, if a bronchial or lung affection exists, chloroform should be used. If this rule be always followed the operator will always know just where to apply the means for resuscitation.

Chloroform has its advantages over ether in many cases. In patients over sixty years of age there is more or less bronchitis and ether fills the lungs with mucus and also irritates the kidneys, which at that age, are weak and diseased. Again, in children under ten years of age, ether will cause an outflow of mucus which may cause asphyxia. In obstetric cases only light and quick anesthesia is required. In operations on the mouth and face, lips and palate, chloroform is safer, unless the Trendelenberg chair is used, because it limits the flow of saliva and subdues coughing. In celiotomy ether is supposed by some to cause oozing of the blood. Ether, however, is always safe in heart disease and should be preferably used when veins are to be tied, as it causes them to be prominent. Long and tedious operations are better handled under ether.

No special inhaler is required for chloroform—a towel, a napkin or a piece of gauze folded upon itself will answer every purpose. The chloroform should be of a reliable make, and in giving it should be mixed well with air, as not over 4 per cent. of the vapor should be used. Hold the cloth above the mouth, adding five or six drops, and proceed gradually. During the stage of excitement do not desist; whichever

anesthetic is used, then is the time to push it, as vomiting may be quickly controlled and muscular relaxation may soon occur, provided vomited food has not been drawn into the larynx, or respiration is not difficult.

Respiration may be aided by keeping the tongue in a natural position. By placing a thumb on either side of the larynx and pressing upwards, the tongue will be thrown forward and unless this is done it is often necessary to reach far back into the mouth with the forceps in order to reach the tongue. Vomiting may be controlled by placing the left hand over the left clavicle and pressing at the sterno-clavicular articulation downwards and inwards with the thumb, so as to exert pressure on the pneumogastric nerve, at the same time pushing the anesthetic. Collapse is quite easy to control when the Trendelenberg chair is used, as, apart from the hypodermatic use of the agents at hand, the simple raising of the extremities soon brings the patient back to a normal state, and the operation may proceed. Artificial respiration and dilatation of the sphincter must not be overlooked in handling a severe case.

For ether anesthesia have near the same instruments and agents as for chloroform, with the addition of an inhaler. Proceed with a fresh case of ether (Squibbs) and add the agent gradually so as to gain the confidence of the patient. Never add a large amount of anesthetic; it always causes coughing. When the patient is thoroughly relaxed, if there is bleeding, diminish the amount. Do not have present either a hot iron or a light. Too rapid use of the agent causes the muscles to become rigid, the respirations rapid, and the pulse bounding. This can be avoided by proceeding slowly and cautiously, and if we do not, this stage continues, the respirations become stertorous and cyanosis is marked. When the stage of insensibility is reached the pupils are contracted, but react to light and touch. When the pupils are fully dilated, with no reflexes, discontinue the anesthetic.

In deep anesthesia the pupils are contracted. In profound anesthesia they are dilated and in neither case will they react to light. Watch the pulse carefully as well as the respiration. Syncope may be due to nausea or hemorrhage. Obstruction of air passages may be due to falling back of tongue, to closure of the epiglottis, the glottis falling to the side, or to vomited matter getting into trachea. Shocks apparent by pallor, irregular pulse, cold extremities and profuse perspiration. These conditions must be promptly met in the most active manner with the agents at hand.

If it is impossible to subdue vomiting, it should be allowed to proceed by raising the head slightly and turning to the side. Have a basin near, but do not wait for one to be brought, wipe out the mouth and proceed with the anesthesia. After the patient has been placed in a bed, artificial stimulation by hot water bottles should be used. Do not permit a pillow.

For local anesthesia freezing with ice and salt, the ether spray, ethyl chlorid, have all been used, but cocain is the first to claim attention, as it is ordinarily used. I believe it to be more dangerous than ether. Reclus gives statistics showing fourteen deaths from its use. There are certain well-defined rules to be followed in the ordinary use of the drug. To be within the limits of safety never use over two-thirds grain on a mucous surface and never over one-third grain under the skin (Da Costa). The urethra is a particularly dangerous region for its use. Thorough antisepsis must be practised. I am sure that many of you have frequently noticed ill effects following the continued use of a stock preparation, composed of cocain, atropia and carbolic acid, by a dentist who does not sterilize his instruments. Good results are obtained, however, by the proper use of cocain and to such an extent that general anesthetics are discarded for it in many minor surgical operations.

The best method to every one is that which has given satisfaction to him by its use. To me the method originated by Prof. C. L. Schleich of Berlin, in 1895, a report of which was furnished by Prof. Parvin of Philadelphia, seems the best. I refer in particular to the infiltration method of a weak solution of cocain, sodium chlorid, morphia muriate and sterilized distilled water, by means of a hypodermatic syringe, directly into the part to be operated upon.

I herewith append the formulæ of the three solutions used, although these solutions are not necessary, it having been my practice in operating on tumors, crushed fingers and toes, ingrown toe nails, fistulas, etc., to use the normal or No. 2.

No. 1. "Strong."

℞

Cocain mur	gr. .3
Morph. mur.	gr. ½
Sod. chlor.	gr. 3
Distilled	
Sterilized water	f ʒiij ʒv.

No. 2. "Normal."

Cocain mur	gr. 1½
Morph. mur.	gr. ½
Sod. chlor.	gr. 3
Distilled sterilized water	f ʒiij ʒv.

No. 3. "Weak."

Cocain mur	gr. 1-6
Morph. mur.	gr. 2-5
Sod. chlor.	gr. 3
Distilled sterilized water	f ʒiij ʒv.

One per cent formalin solution may be added to preserve the solution in a more aseptic condition. Either No. 1 or 2 are used in ordinary cases, while No. 3 may be used where anesthesia of the deeper structures is required in a prolonged operation.

The preparation which has given most satisfaction to me is eucain hydrochlorate. It is a recent preparation which has proven to be far superior to cocain, from the fact that its use is devoid of the danger of the latter. It is produced by the action of ammonia on acetone. It is practically non-poisonous and the anesthetic effect produced is greater and more lasting than that produced by cocain. In eye surgery it presents advantages by the fact that it does not dilate the pupil nor affect the accommodation and it does not decompose if kept for a period of time.

Inhalation of chloroform and ether, while producing the desired result has the drawback of over-doing the thing by bringing on general insensibility of all the body. This undesired and unnecessary surplus result logically explains all the evil consequences following their use, foremost among which is loss of life. Compression of different nerves and constriction has little effect. Cold is superficial and produces a necrotic effect on the tissues involved. Cocain acts directly on the nerve cells, as it is a cell poison. Water infiltration will cause local anesthesia. With a syringe holding 40 m. one can safely make 25 injections of No. 1, 50 of No. 2, and 300 of No. 3 without getting the maximum dose of cocain or eucain.

The scrotum, labia, arms, must be painted with glycerine previous to using ether spray. On mucous membranes use a crystal of cocain or acidium carbolic previous to insertion of needle to render this procedure painless. Technic must be modified to suit each case. The use of cocain hydrochlorate in the formulas given by Schleich has proven efficacious in every way. I have endeavored to follow his technic in its use. I recently used it on an eighteen year-old boy of a nervous temperament in an operation for two ingrowing toe nails. He objected to being put under ether and wanted to know if there was not another way. I informed him that there was and prepared the No. 2 (normal) solution, substituting eucain for cocain. After thoroughly cleansing the parts, I placed a rubber band on the toe to prevent bleeding, and sprayed the toe with ether to render the insertion of the needle painless. The first insertion was in a healthy tissue. I here injected about six to eight mimims of the solution, producing a wheal just under the skin. The next insertion was in the area of the first wheal. I continued this procedure until the entire area to be operated upon was infiltrated, after which the removal of the necessary tissue and the nail was absolutely painless. Ordinary antiseptic dressings were applied and healthy healing was brought about in a short time.

An Irate Female.—A female medical student who failed at a recent examination in London so effectually lost control of her inhibitory moral sense as to retaliate in the following ungrammatical convulsive outburst: "Very soon doctors will be drawn from we pure, noble-minded women, and you vile, drunken, filthy men expelled forever.—*Lancet.*

There is something nice about balance of trade. For instance, a farmer comes to the city loaded with hay and returns home loaded with rye.—*Tex. Cour. Rev. of Med.*

CURRENT LITERATURE CONDENSED.

Infantile Hematemesis and Melena.[1]

The vomiting and purging of blood is so seldom met with in children and infants that a case which came under my notice recently may be of interest. The baby in whom it occurred was healthy and full grown, and for nearly twelve hours after her birth, everything—including taking to the mother's breast—seemed to go well. About the end of that time, however, the mother first noticed the baby's lips and mouth to be blood-stained, but, although the same phenomenon showed itself several times later on in the evening, and was on one or two occasions accompanied with slight vomiting of a muco-sanguineous fluid, she took no particular notice of the matter, attributing it to the fact that one of her nipples tended to be sore. Throughout the following night nothing beyond a similar repetition of events occurred, except that the child had a passage of a very dark brown color, which on ordinary observation would have been taken as wholly consisting of meconium, but which on closer inspection proved to be a mixture of this and blood.

The first intimation I got that anything was wrong was on the following day, when a hurried message was sent to me. I was informed that after her morning bath and dressing the infant had vomited blood of a bright red color, and had passed stools of a deep blood-black appearance. I found the facts as stated by the stains on the clothing, etc., and the child immediately afterwards in my presence vomited blood, and the napkin was saturated with a bloody discharge, which poured out from the anus. The child by this was very anemic, and showed signs of impending death. I fully inquired into every particular which might throw light upon the subject, with a negative result. The mother's labor was not other than ordinary.

The treatment which I adopted with a view to the arrest of the hemorrhage was small doses of ergot, iron and gallic acid. These at first seemed to check it, but it soon broke out again, and between three and four hours after I was summoned to her the child died from exhaustion following persistent hematemesis and melena. No necropsy was held. The bleeding was not attended with any other sign of affection of the abdominal viscera. The mother and nurse did not recognize any danger earlier than when they sent for me; and as for the breasts, no trace of blood oozing or procurable from them could on examination be discovered.

[1] R. Hill Shaw, M.B., Dublin, in *British Medical Journal.*

Abortive Treatment of Quinsy.

The customary treatment of quinsy, or angina phlegmonosa, consists in waiting until the abscess is formed and then opening it with an incision through the soft palate. This waiting is not pleasant, and there are many cases where the patient suffers tortures, is unable to sleep, cannot eat or drink, and frequently his life is endangered. For some time I have been treating such cases, with very good results, in the following way: A probe, preferably of pure silver, bent to the proper angle, is inserted into each of the lacunæ as deep as it will go, and a certain amount of force is used pulling the tonsil in every direction and producing a slight hemorrhage, while the probe is turned in all directions, but more especially upwards, where the abscess always forms.

This treatment gives immediate relief to the patient, so that he is enabled to follow his usual avocations and to eat and sleep. It is repeated whenever the patient is in pain, and the result is that no abscess forms; the edema of the uvula and larynx disappears after the first application; the fever also leaves the patient and the attack is over within, at the latest, three days. I use the probe of pure silver because it is very flexible and can be disinfected in the flame; this is of importance in order not to infect the tonsils.

Follicular tonsillitis will also yield to this treatment. It is more beneficial if the probe is armed with some salicylic acid.

In discussion Dr. J. H. Bryan said: Local treatment is not sufficient for quinsy, because it is a general disease,

usually due to the uric acid diathesis, and the only way to treat it is by remedies directed to that disorder. I have found salicylate of soda the best thing. When the disease is seen very early, and where it is possible to get antiseptics into the deep lacunæ the inflammation will stop, but it is very rarely that we see patients before the suppurative process has begun.

Dr. C. W. Richardson said: In the first twenty-four hours it is not always possible to tell whether you are going to have a suppuration or simple follicular tonsillitis, or simply a parenchymatous inflammation of the tissues, which does not go on to suppuration. I have seen cases that were thought to have been aborted by local treatment, but I have seen the same treatment fail, so I am inclined to think that those aborted were clearly cases that did not go on to suppuration. I believe that quinsy is a constitutional disease, and that persons with the uric acid diathesis are more susceptible only because they are more susceptible to cold. It seems to me that Dr. Bermann's method is a very good one for the local treatment of follicular tonsillitis, but I cannot see how it can prove of service in a suppurative disease of the areolar tissue of the tonsil.

Dr. W. W. Johnston: When Dr. Richardson speaks of aborting suppurative inflammations I suppose he does not mean the cure of abscesses. Abortion of parenchymatous tonsillitis is not an abortion of suppurative tonsillitis, for it cannot be called this until pus has formed. Inflammation of the tonsil may become a parenchymatous inflammation, or it may or may not end in the formation of pus. Any treatment which can prevent a parenchymatous disease from becoming suppurative is an abortive treatment. Only experience will establish the results which Dr. Bermann claims for his treatment. What interests me in the plan of treatment is the bearing which it has on a theory, which has been advanced as to the cause of this inflammation—that rheumatism is due to a microörganism, and that this is the same microörganism which produces tonsillar inflammation. Dr. Wagner, of San Francisco, claims that by scraping into the tonsil, or cutting it, he has got the same microörganism as from the fluid obtained by tapping a rheumatic joint; which goes to show that there is some relation between tonsillar inflammation and rheumatism. I do not know whether any one has confirmed these observations of Wagner. The evidence of tonsillar inflammation being rheumatic is not by any means clear, and yet if you ask a body of medical men what is the appropriate treatment for tonsillitis they will say the same remedies as for rheumatism. And yet no one can say positively that it is rheumatic in its nature; the faith that is put in salicylate of soda seems to be empirical. It is the popular treatment of to-day, originally based on a theory for which there is no adequate proof, but now accepted on its own merits.

Some Parts that Youths have Played in History.

A curious inquirer has made research among the facts of history, and sets forth the following:

Jefferson, at thirty-three, drafted the Declaration of Independence.

General Sheridan was thirty-four at the close of the war.

Napoleon was Emperor of France at thirty-five.

Commodore Perry fought the battle of Lake Erie at twenty-eight, and died at thirty-four.

Nelson was forty at the battle of Aboukir.

Hamilton was thirty at the close of the War of the Revolution.

Fulton was thirty-eight when he launched the first steamboat.

John Hancock was thirty-eight when president of the Continental Congress.

Henry Clay, at thirty-seven, was United States Commissioner to negotiate the Treaty of Ghent.

William Pitt was Prime Minister at twenty-seven.

Robert Bruce, at forty, defeated the English at Bannockburn.

Daniel Webster, at thirty-six, was the leading lawyer in the United States.—*Annals of Hygiene.*

Doolan—Fitzgerald says he's discinded from some of the greatest houses in Ireland.

Mulcahy—Musha! So he did, many's a time—on a laddher!—*Dublin Gazette.*

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:
A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, DECEMBER 12, 1896.

PUBLISHERS' NOTICE.

Subscriptions to the REPORTER are payable in advance, and the season being at hand when renewals are most frequent, the publishers request each subscriber to examine the address printed upon the wrapper in which the journal is mailed. The date printed with the address is that TO which the subscription is paid. The subscriber will see at a glance the status of his account. Formal acknowledgment is made of every remittance as received, and the date upon the wrapper is revised accordingly. If not properly altered within three weeks, subscribers are requested to notify us of the oversight in order to prevent subsequent mistakes. Delinquent subscribers will learn the date since which their accounts are in arrears.

EDITORIAL.

SUSPENSIO UTERI.

It is claimed that one-half of the operations for the displacement of the uterus have been performed by one American surgeon. Fortunately, therefore, the operation has not become so popularized as to become of general adoption through the medical world. One man claims to have done a few short of one hundred operations and claims results to have been of the most satisfactory character. It is to be hoped that the claims of the men who practice this procedure, with all the associated facts as to conditions, will be carefully investigated before the adop-

tion of the operation becomes epidemic in form, as is the tendency in too many of our surgical procedures.

It does not seem rational to fix the uterus to the abdominal wall by surgical means to accomplish the cure of a condition of itself far less dangerous than that produced by the operation. The statistics showing the number of pregnancies following this operation certainly do not recommend it. The dangerous complications of obstructed bowel and delayed and disturbed labor must greatly overbalance any possible good that can accrue from it. We recall two cases within our recollection of obstruction of the bowel, resulting from this operation, one terminating in death, the other in recovery. In both of these cases the original operations were done by the same surgeon.

The fifty and more cases of pregnancy following eight hundred operations for ventral fixation will not convince the experienced practitioner who has had much to do with uterine displacements of the usefulness of this procedure. It is a very common thing to find a woman barren from displacement of the uterus, and it is almost as common to find the same woman returning, after several months of treatment by pessaries or otherwise, to report herself pregnant, and if a pessary had been used to have it removed. Uterine displacement involves great suffering and distress in some cases where the uterus and appendages are adherent, with the ovary under, behind and pressed upon by the uterus, and removal of the diseased appendage or appendages is sometimes required, yet the tying off of the appendage of one or both sides will hold the uterus in perfect position without the use of any fastening to the abdominal wall. This operation is almost so frequent in some of our medical centres as the legitimate removal of conditions that lead to the almost immediate destruction of the patient unless surgically relieved.

This operation offers so many excuses to the surgeon to multiply cases, to add to his statistics, and tempts the operator into a very questionable field of surgical procedure. When a man can report a number of cases of abdominal section for various conditions and of that number almost one-half for ventral fixation, his mortality should show very well beside the reports of those surgeons operating for the accidents of obstruction and other complications following this operation, and other dangerous conditions for which all busy surgeons are called upon to operate. Statistics are therefore worth but little unless we know the exact conditions present at the time of operation and the conditions for which the operation was done, whether done by the election of a man who thinks that suspending the uterus by a few sutures is a legitimate procedure, or by one who would only consent to subject his patient to such mutilation for conditions leading to the rapid destruction of life.

Unfortunately, surgery has its fads, and the poor patient often must, and only too frequently does, pay for them.

Abdominal surgery has done too much to relieve suffering women and prolong lives, and has too strong and too legitimate a claim to the high place it holds in the profession and in the confidence of the unfortunates in every community not to have some limit observed in surgical experimentation, especially with men not competent, either through scientific study and research or experience, to judge of the wisdom of any procedure. All our surgical procedures should be brought under the strongest light possible to bring to bear upon them. Each and every one should have the strongest fortification; in fact, be sustained by the strong logic of beneficial results.

CORRESPONDENCE.

REVIEW OF AN EDITORIAL ON ECTOPIC PREGNANCY.

EDITOR OF THE REPORTER:

The editorial in the November issue of the *American Gynecological* and *Obstetrical Journal* cannot fail to attract professional notice, not so much for the originality or novelty of the ideas advanced as for palpable error. The editorial borders upon that conservatism which has done so much to retard the progress of medical and surgical science. It is something of a sermon to the profession and possibly, as one of the congregation, we have no right to "jaw back at the preacher." He appeals to the Decalogue and discourses upon the sublime topic, human life, and in crying out at professional ignorance of the sublimity of life, almost places upon the souls of men a blasphemy which denies him his religion. With all due reverence for all that is sacred and best, we venture to state that little of the knowledge coeval with Moses is of practical value in modern medicine and surgery.

The article under discussion comes from one who by very virtue of his position and the wide circulation of the journal, is presumed to do much in forming and directing medical and surgical opinion. Gifted with great facilities of expression he speaks through his journal to our professional world and should represent faithfully our hopes and progress, reflecting that consensus of eminent authority which justifies and makes duties of certain of our surgical procedures.

It is difficult to consider the editor serious, yet we fail to discover a note of irony. In the following we find expressed in clear, distinct, easily understood language ideas which can only tend to produce skepticism where a strong faith is needed; create a form of social condemnation; and bring reproach upon a medical procedure which has done so much to relieve the sufferings of unfortunate women and to save so many lives. He says: "For a great many years ectopic pregnancy has been known but the knowledge was almost theoretical and was of no practical value. Modern surgical knowledge and operative facility has solved half the problem; it saves one human being by *killing another* (all italics mine); it rescues the mother but only by the *deliberate destruction of the child.* We have, therefore, from an *ethical and moral point of view, made no direct advance in the treatment of this condition,* for what we know now and what is done surgically now were as well known and could have been as easily performed by our ancestors had they the benefit of asepsis. In future generations our present methods of treatment will stand as *an awful reproach* to the profession, that for so many years we complacently applied the principles of *pure expediency* to one of the fundamental laws of human society—a law explicitly commanded of God and universally acknowledged to be based upon abstract justice—'Thou shalt not kill.' For it cannot be denied that the fetus is as much a distinct and independent human entity as is the child at the breast or, for that matter, *the mother herself;* and, finally, that it has as much inherent and inalienable right to its own life as has the mother to hers or the surgeon, who *kills it,* to his own."

There is much top-lofty sentiment and very little logic in the above; nothing at all sustained by modern experience, and the results in the cases under discussion. We have long had very many wordy discussions of the ethics of operative procedures. The discussions have generally originated with and been carried on by men with very limited surgical experience. The one thing that justifies any procedure is its life-saving service.

In ectopic pregnancy we have more than "solved half the problem." With our earlier practitioners it was not lack of the "benefit of asepsis" that held their hands; they doubted their power to diagnose the condition in these cases, yet more than ability to surgically deal with it when diagnosed. Our "direct

advances in the treatment of this condition" have removed these doubts and sense of inability; we know these cases can be successfully dealt with surgically. Adaptability or aptitude for this special work is not here in question. Where there is failure to correctly diagnose conditions (after rupture) there is want of experience and training, and where there is failure to operate there is a want of surgical courage or conscience or both. Result:—In these cases the weight of surgical opinion is against "waiting with folded hands until rupture has assured the death of the fetus by natural means." The master in this as in other gynecologic procedures, Mr. Lawson Tait, says: "I have been enabled to diagnose (this after rupture) eight out of ten cases, and in the remainder it was best not to wait for a diagnosis but to act at once."

The sacrifice of one life to save another seems to be the ethical objection against surgical interference. Aside from the value, the sacredness, of the life of the mother there are facts associated with this most fatal of accidents, facts sustained by the statistics of very many foreign and American surgeons that point to the moral obligation for operative proceedings. The cases of Dr. Joseph Price number more than one hundred and thirty, my own forty, a total of one hundred and seventy. In all this number only three children were found alive, all having perished previous to the patients having been seen by the surgeons.

In the cases of the three living children, two of the mothers perished of hemorrhage soon after operation, one on the ninth day, the other earlier. In the one hundred and seventy or more cases there were nine deaths, all from hemorrhage.

The case of the living mother and child was my own. This case was operated on for extra-uterine pregnancy at full term, and was reported the following year (1892) to the Pennsylvania State Medical Society. The case is reported by Gregg Smith as the only case in America where both mother and child survived the operation. Smith *generously* credits the operation to one Eastman of Philadelphia, while there is no man of the name belonging to the profession living in the city. His statistics would have been more reliable if he had obtained them from some Philadelphian capable of telling the truth.

My having had this one experience of saving both mother and child has not changed my opinion that all cases of extra-uterine pregnancy should be surgically dealt with at the very earliest moment that a diagnosis can be reached, when symptoms are even no more prominently marked than to justify a presumptive diagnosis. The issue being one of human life,—that life a mother's—the head of a home,—it is failure in professional duty, if not crime, to delay. I have no desire to operate in another case at term, to witness the awful agony of the mother and to watch the slender thread by which life is held through a period of thirty-five consecutive days with seeming little possibility of final recovery.

I am satisfied that no experienced surgeon, one familiar with the determining symptoms in these cases and who has had a single experience in a case gone to or near term, will ever consent that one be permitted to go to term. They go to term simply because they are not recognized. Figures would fail to reckon the mortality in the unrecognized cases.

In "future generations our present methods of treatment" will not stand so much as "an awful reproach," as our failure to practice the faultless lessons our advanced science and art teach with all the authority of demonstrated truths. All experience in these cases, the combined experience of surgeons of skill and acknowledged authority, go to demonstrate that the fetus is found dead in ninety-nine in every one hundred cases operated upon, and only very rarely found alive in those cases culpably permitted to drift along to the great peril of the life of the mother, more frequently finally fatal than otherwise. The surgical procedure, therefore, in these cases is no more taking the life of the child, or feticide, than an autopsy is murder. There is no question but that the surgeon, even the most skillful, in exceptional cases, shortens the life of the patient in his honest endeavor to remove conditions that are destroying life. Where that effort fails there is no doubt

life is shortened by the operation. Patients accept the risk in the hope of obtaining relief from intolerable conditions and having life prolonged.

The editor employs the expression "sentimental sophistry." The expression very aptly applies to the following quotation from the editorial:

"We cannot acquiesce calmly in legalized feticide and feel that our duty is accomplished when we have merely learned the simple expedient of saving the mother's life by the direct destruction of that of another human being. We will go further and say that we consider that in this disease the physician has two patients and that his obligation to the unborn child is as great as to the mother. The fact that the fetus is a silent and helpless victim can in no way lessen the physician's obligation toward it." This is sentiment run mad. The X rays are not needed to discover the absurdity of such teaching.

Fortunately we do not meet with many physicians and surgeons who do not appreciate their obligations in these cases, the grave character of their duty. They have conscience in the matter and appreciate to the fullest the sacredness of human life. They appreciate that it is their duty to save the life possible to save.

MORDECAI PRICE, M. D.

PHILADELPHIA, December 3, 1896.

ABSTRACTS.

THE LEGAL VALUE OF DYING DECLARATIONS.*

Dying declarations, as defined by the American and English cyclopedias, are statements of homicide made by the victim under the solemn belief of impending death. The effect of such belief is regarded as equivalent to the sanctity of an oath. Declarations so made are substitutes for sworn testimony, and they must be such narrative statements as a witness might give on the stand if living.

The importance to the physician or medical examiner of a knowledge of the subject of dying declarations was impressed upon my mind by a case of death from criminal abortion which occurred in my district about a year and a half ago. In this case the accused was brought to trial and convicted. During the trial dying statements of two different persons were offered in evidence. In one case this evidence, if admitted, would have been favorable to the accused; in the other, to the prosecution.

I will narrate as briefly as possible the case to which I refer, and from this illustration, try to define what constitutes a dying declaration, what circumstances are necessary to make it valid, and how slight an error or oversight may throw it all out as inadmissible.

On the evening of November 20, 1894, a physician in Woburn telephoned me that he was in attendance upon an unmarried girl upon whom he had reason to suppose an abortion had been done, and that she would probably die. She did die the next night. I viewed the body the following morning, November 22, inquired into the circumstances of the sickness and death, and made an autopsy at the undertaker's the same afternoon. From the physician in attendance and from the family of the sister at whose house she died, I obtained the following facts:

Petrina Matson, single, domestic, aged twenty-one years, born in Denmark, discovered in September, 1894, that she was pregnant. She was taken by her lover to some place in Boston, where an "operation" was performed October 24, 1894. She was then sent to the house of a "nurse" for care. Her sister and her relatives, missing her, made diligent search, and after ten days found her at the house of the so-called "nurse." They brought her home to her sister's house in Montvale, Woburn. Dr. Chalmers was called to attend her.

*Daniel March, Jr., M.D., in Boston *Medical and Surgical Journal.*

He found her with symptoms of septic peritonitis — abdominal pain; fever; thin, mucous diarrhea, and a foul, dark, bloody discharge from the vagina. At times she was seemingly a little better, but gradually became worse until, twenty-eight days after the operation, she died.

She had been very reticent during her last illness; she would make no statement to the physician and did not think she was going to die. She had, however, confided to her sister something about the operation.

The autopsy showed the body of an emaciated girl, abdomen rather sunken, vagina large enough to admit two fingers, a very foul discharge from the vagina; the uterus of normal size, the neck of the uterus on one side lacerated its entire length as if rudely torn by some instrument, catarrhal inflammation of the mucous membrane of the entire intestinal tract.

The history and post-mortem examination justified a report of "death from septic fever, the result of criminal abortion." "Dr." Henry E. Bishop, *alias* "Dr." Herman, *alias* "Dr." Bailey, was arrested. After tedious preliminary hearings, the grand jury promptly indicted Bishop for criminal malpractice in causing the death of Petrina Matson, and in another indictment charged Bishop also with another similar offence in the case of a colored girl, Florence Adley, who died in the City Hospital, Boston.

At the hearing of the latter case, the house officer who had charge of the patient at the city Hospital, was called to testify; and he said that the girl, being very ill and feeling that she could not recover, stated to him the facts about the operation, and that it was done by Bishop. Afterwards, however, she felt a little better, and said to some friends, or persons at her bedside, that "she hoped to get well." This expression was sufficient to entirely negative her first statement as a dying declaration, and the whole was ruled out as inadmissible.

In the Matson case, the witnesses were the young man who had been arrested as accessory, who took her to Bishop's office and paid the fee, the physician who attended at her home, the medical examiner, and the girl's sister. The defence was evidently very anxious to put this latter witness on the stand. She had talked with her sister during her last illness; she had heard the whole story; and this she was prepared to relate. But the judge questioned her so closely in regard to the circumstances that the witness was obliged to admit that her sister did not know that she was so seriously ill, and did not know that she was going to die. Therefore, this evidence was merely hearsay and not a dying declaration; and the witness was not permitted to testify in regard to any conversation, whatever it may have been.

The jury brought in a verdict of guilty in the Matson case. Some months later, January 7, 1896, the exceptions having been overruled by the Supreme Court, Bishop was sentenced to the State Prison under the Indeterminate Sentence Act of 1895. The minimum term of his sentence was fixed at seven years; in case the court has any power to sentence definitely, his term was made ten years.

The court said that it could not help feeling that a man who attempted to perform operations of the kind that defendant attempted, ought to have the skill commensurate with the task, and that the business as carried on by the defendant, who, as appears was once a butcher and then a policeman before he practiced such operations, was nothing less than pure butchery. Accordingly, his sentence was made severe.

It is important for the physician in attendance upon a woman likely to die from the results of a criminal abortion to have clearly in mind his legal position and responsibilities. I quote a few of the acknowledged principles which have a bearing upon such cases. Dying declarations are accepted in law without being sworn to. It is naturally presumed that all statements made at such a solemn crisis must be sincere, believed at heart to be true by the dying person, even if subsequently shown not to be so.

The attending physician under such circumstances having expressed the opinion that the patient is dying and in sound mind, a magistrate should be summoned to take down the statements

that the dying person may wish to make. Should it not be possible to obtain the services of the magistrate, then the attending physician can take down the dying declarations. The physician should, however, limit himself to writing down the exact words of the dying person, without offering any interpretation whatever. The statements should be read over to the dying person, and, if possible, her signature obtained.

The declarations must be made, not simply *in articulo mortis*, but under the sense of impending death, without expectation or hope of recovery. They are admissible even though others may not have thought the person would die.

The declarations may be signs or other appropriate modes of communication. It is not necessary that the examination of the dying person should be made after the manner of interrogating a witness in the case, although any departure from that mode may affect the value and credibility of the declarations. It is no objection to their admissibility that they were made in answer to leading questions, or were obtained by pressing and urgent solicitation, but the declarations must be made under a sense of impending dissolution. It does not matter that death failed to ensue until a considerable time after such declarations were made.

Declarations of a deceased person are admissible only in reference to those subjects to which she would have been competent to testify if sworn in the case. They must, therefore, in general, speak to facts only and not to mere matter of opinion, and they must be confined to what is relevant to the issue.

The circumstances under which the declarations were made are to be shown to the judge, it being his province and not that of the jury to determine whether they are admissible.

If the deposition of the deceased has been taken under any of the statutes on that subject, and is inadmissible as such for want of compliance with some of the legal formalities, it seems that it may still be treated as a dying declaration if made *in extremis*.

THE DIAGNOSIS OF TUBERCULOSIS FROM THE MORPHOLOGY OF THE BLOOD*.

It is well known that if the diagnosis of tuberculosis be delayed until it is confirmed by the discovery of tubercle bacilli in the sputum, the most important period has been neglected. When bacilli are found, the patient is already in the active state of the disease, and, in many cases, it is then too late to check it. Therefore, the first step in the prevention of tuberculosis should be an early diagnosis. If this can be done before the active state begins, or at its beginning, many may avoid or at least delay the destructive results which otherwise would soon follow.

Authorities quite agree that in tuberculosis there exists a shorter or longer latent or pretuberculous state. They also agree that the leucocytes of the blood are tissue-formers. During this so-called latent period the body is undergoing retrograde changes. The body tissues are being constructed of the leucocytes of the blood. Hence it occurred to me recently that, before the disintegration of the gross tissues of the body begins, the blood would show distinct and characteristic signs of a similar nature; and, if so, that a study of these appearances could be made a valuable means of diagnosis in this disease. With this in view I selected a few patients with pronounced tuberculosis, and carefully studied a specimen of blood from each. With each specimen I used absolutely the same technic with reference to taking the films, fixing, staining, and mounting. Afterward cases with similar blood characteristics were grouped together, and to my surprise I found a remarkable similarity in the histories and clinical symptoms. Hence these studies have convinced me that in tuberculosis the condition of the individual can be interpreted from the appearances of the leucocytes of his blood.

Whether the tuberculous condition be inherited or acquired, we find in such persons a tendency to a more or less ex-

*A. M. Holmes, A.M., M.D., Denver, Col., lecturer on Hematology in University of Colorado; Hematologist to St. Joseph's Hospital; in the *Medical Record*.

tensive tissue disintegration. In tuberculous blood I have found cell disintegration abundant, and especially so in young and middle-aged leucocytes.

Hence the fundamental principle upon which this thesis is constructed is the hypothesis that every individual has a biologic prototype in the leucocytes of his own blood. What is true of the larger organism is true of the smaller. What is true of man is true of the leucocytes of which man is constructed. And conversely, what is true of the cell is true of the individual. Hence, upon this hypothesis I shall attempt to show a relation of diagnostic value between certain morphologic appearances in the leucocytes of the blood and certain conditions in the patient.

It is the opinion held by the majority of observers, Uskow, Gullard, Ehrlich, and others, that the various forms of leucocytes are mere stages or transitional forms in the life history of the cell. The characteristics which point to the growth of leucocytes, and from which their ages may be approximately ascertained, are based upon first a differentiation or division of the nucleus; second, the appearance of granules in the cell protoplasm.

As a young leucocyte develops, the nucleus attempts to divide. It first changes from the spheroidal or oval form by extending a portion of itself in various directions. The forms seen in this stage are characterized as "transitional" forms. As the cell continues to develop, many of these nuclei completely divide. The cell then contains two or more nuclei and is called a polynuclear leucocyte.

A very young leucocyte possesses very little cell body, being almost all nucleus. But as it develops, the cell body increases in size. The cell body in young cells is non-granular, but is either transparent or basophile. As it develops we often observe a tendency to granulation, the granules at first being transparent or faintly basophile. In health they develop in the cell protoplasm simutaneously with the characteristic transitional changes in the nucleus. As the nucleus reaches the transitional or polynuclear form, the granules become more numerous and change from transparent or basophile to oxyphile. Hence, in health oxyphile granules are never seen except in transitional or polynuclear leucocytes or in mature cells. When they are observed in lymphocytes, or young cells, it indicates a prematurely developed cell protoplasm, or a nucleus endowed with low vitality and unable to divide.

Again, when leucocytes reach maturity and begin to decay, the granules of the cell protoplasm become less oxyphile and often faintly basophile. Hence, when phagocytes or mature leucocytes are observed with granules which are only slightly oxyphile, or with a basophile tint, we have a cell that is undergoing disintegration—a cell that is returning to its second childhood. Its granules were first basophile, then became oxyphile, and if the cell lives long enough they again become basophile.

But all cells do not pass through each of these stages. As a child with a frail organism rarely reaches maturity, so frail leucocytes often die in their infancy. Leucocytes come from pre-existing leucocytes, and here, as well as with the more specialized sperm and germ, the characters of the parent are handed down to the offspring.

The histology of the leucocytes, studied microchemically, shows that they consist of four tissues: chromatin and achromatin, tissues of the nucleus; spongioplasm and hyaloplasm, tissues of the cell body. Each of these tissues gives a specific reaction to stains, and they react differently in health and in disease. The spongioplasm is a network of delicate protoplasm in the cell body, which surrounds and encloses the globules of hyaloplasm, in the same manner that the skin, mucous membrane, and layers of fascia surround and enclose the larger animal organism and its anatomic parts. The chromatin is also a network of extremely delicate nuclear protoplasm, which encloses and protects its more delicate tissue, the achromatin, in the same manner that the external membranes of the brain and nerves surround and protect the delicate tissues within them.

Von Recklinghausen and Cohnheim demonstrated that the leucocytes possess distinct and independent functions. They receive food, grow, migrate, construct, generate, and eliminate. Hence we find in them functions exactly analogous to those in the larger animal.

In gross pathology, when the tissues

are changed in their morphologic appearances their functions are altered. Therefore, when the cell tissues are changed in their appearances and reactions to stains, their functions are also changed.

In tuberculosis of the individual we find a rupture, or evidence of beginning rupture, of the continuity of the enclosing membrane, skin or mucous membrane, according to whether it is surgical or pulmonary tuberculosis. When the membrane is ruptured we find a discharge of broken down or disintegrating tissue. In tuberculosis of leucocytes an identical process is observed. There is a rupture of or an attempt to rupture the spongioplasm. When this is ruptured a portion of the cell is observed passing out, or it has already passed out, leaving a depression in the cell corresponding to the amount of tissue lost.

When the spongioplasm has not yet broken the cell is distorted, with irregular contour and a portion of the cell protoplasm protruding at various points. Hence, the law that brings about disintegration in the tuberculous patient brings about the same process at an earlier date in the tuberculous leucocyte. The cells show all degrees of disintegration. The blood serum is loaded with débris from these disintegrating cells. With marked disintegration of lymphocytes, or the young cells, we can safely predict adult cells of weakened vitality. Consequently, the phagocytes or tissue formers will be feeble and inactive. Therefore, with marked disintegration in the leucocytes, it is with absolute certainty that we can predict a similar condition in the larger organism. When this condition exists, bacilli find a congenial culture medium in which to lodge and develop, with very little resistance on the part of the phagocytes.

Perhaps the most important analogy is between the leucocytes of an individual and the individuals of humanity. Each particular class or type in the normal state represents a definite percentage of the total number. In other words, each leucocyte, whether infant, middle-aged, or adult cell, bears such analogous relation to the totality of cell aggregation which constitutes the individual as each individual bears to the totality of individual aggregation which constitutes the more highly complex organism—humanity.

The statistics of any people will show that there is a fairly uniform percentage of the total population for childhood, for middle age, and for adult life. When these percentages are materially changed, we have reason to suspect something wrong in the vital economy. Tne same law holds good in the leucocytes of blood. The consensus of opinion among the hematologists is quite uniform as to the

Percentages of Leucocytes in Normal Blood.—Neudorfer's classification is approximately as follows:* Small lymphocytes, twenty-six per cent.; large lymphocytes, eight per cent.; phagocytes, sixty-five per cent.; eosinophile leucocytes, one per cent. In nearly all pathologic conditions there is more or less variation from these percentages. Hence, when we find a marked variation from the above percentages, we may be quite certain that we have a pathologic condition somewhere in the organism. The following table prepared from the cases studied will show a variation from the normal percentages of considerable diagnostic significance. And, furthermore, a study of the table will also show comparatively uniform percentages for each type of the disease.

I am indebted to many of the physicians of Denver for numerous cases furnished from their private practice, and I wish here to express my gratitude for their valuable aid in this laborious study. The thirty-five presented represent, so nearly as possible, every stage in the tuberculous condition—those in various stages of the active disease, those who have inherited a strong predisposition, and those in various stages of convalescence.

Summary of Cases.—Incipient pulmonary tuberculosis, 1 to 7; incipient laryngeal tuberculosis, 8 and 9; convalescent pulmonary tuberculosis, 10 to 14; advanced pulmonary tuberculosis, 15 and 21; fatal cases of pulmonary tuberculosis, 22 and 23; fatal cases of tuberculous meningitis, 24; last stage of pulmonary tuberculosis, 25; tuberculous periostitis, 26; tuberculous necrosis of spinal vertebra, 27; tuberculous hip-joint, 28; tuberculous knee-joint, 29; tuberculous adenitis, 30; pretuberculous and non-tuberculous, 31 to 35.

*To estimate the percentage of each variety of leucocytes, five hundred or more cells should be counted and an average taken.

TABLE I.

No.	Name	Age	Percentage of Small Lymphocytes.	Percentage of Large Lymphocytes.	Percent. of Phagocytes or Neutrophiles.	Percentage of Eosinophile Leucocytes.	Percentage of Myelocytes.	Condition ascertained from a study of the patient.	Condition ascertained from a study of the blood.
1	Mr. H...	18	7	17	73	2	⅛	Incipient pulmonary tuberculosis; little sputum; few bacilli.	Tuberculous condition marked. Recuperative power good.
2	Miss X.	23	13	14	71	2	.....	Incipient pulmonary tuberculosis; very little sputum.	Tuberculous condition marked. Fair recuperative power.
3	Mr. H...	26	16	9	74	1	.....	Incipient pulmonary tuberculosis; sputum and bacilli.	Marked tuberculous condition. Strong recuperative power.
4	Miss S...	...	11	11	77	1	.....	Incipient pulmonary tuberculosis. Beginning convalescence.	Marked tuberculous condition. Fair recuperative power.
5	Miss N.	38	13	12	74	1	.....	Strong tuberculous predisposition. Had tuberculosis and recovered. Now threatened with relapse.	Tuberculous condition marked. Strong recuperative power.
6	Mr. B...	58	9 15	23 12	66 69	2 4	1st count. 2d count two weeks later.	Incipient pulmonary tuberculosis; severe cough; little sputum; no bacilli.	Tuberculous condition well marked. Two weeks later much improved.
7	Mr. C...	27	12	12	74	2	.....	Incipient pulmonary tuberculosis. Beginning convalescence.	Tuberculous condition marked. Strong recuperative power.
8	Mr. J...	25	12	12	74	2	.....	Tuberculous laryngitis; little sputum; bacilli. Improving slightly.	Tuberculous condition marked. Slight recuperative power.
9	Mr. M...	56	16	13	70	1	.....	Tuberculous laryngitis and incipient pulmonary tuberculosis; very little sputum; bacilli.	Marked tuberculous condition. Moderate recuperative power.
10	Mrs. F..	25	26	20	51	3	.....	Incipient pulmonary tuberculosis; no sputum; very little cough. Convalescent.	Tuberculous condition well marked. Strong effort to recuperate.
11	Mr. U...	32	23	16	59	2	.....	Pulmonary tuberculosis. Convalescing. No cough, no sputum.	Tuberculous condition moderate. Fair recuperative power.
12	Mr. M...	32	31	6	63	⅛	.....	Pulmonary tuberculosis. Convalescent. No cough; no sputum.	Tuberculous condition slightly marked. Strong recuperative power.
13	Mr. X...	..	37	8	53	2	.....	Pulmonary tuberculosis. Convalescent.	Tuberculous condition very slight. Strong recuperative power.
14	Mr. D...	...	32	13	53	2	.....	Pulmonary tuberculosis. Convalescent.	Tuberculous condition marked. Fair recuperative power.
15	Mr. E...	23	8	8	81	⅛	.....	Advanced pulmonary tuberculosis; abundant sputum; cavity; bacilli.	Marked tuberculous condition. Little recuperative power.
16	Mr. M...	32	7	5	87	1	.....	Advanced pulmonary tuberculosis; large cavity; abundant sputum; bacilli.	Marked tuberculous condition. No recuperative power. Granules with basophile tint.
17	Mr. H...	55	7	16	74	3	.....	Advanced pulmonary and laryngeal tuberculosis of long standing. Slightly better.	Tuberculous condition marked. Slight recuperative power.
18	Mr. X...	38	8	10	81	1	.....	Advanced pulmonary tuberculosis; abundant sputum; bacilli.	Marked tuberculous condition. Slight recuperative power.
19	Mr. C...	28	8	10	80	1	1	Advanced pulmonary tuberculosis; abundant sputum; bacilli.	Marked tuberculous condition. Slight recuperative power.
20	Mr. L...	24	10	8	80	2	.....	Advanced pulmonary tuberculosis; abundant sputum; bacilli.	Marked tuberculous condition. Fair recuperative power.
21	Mr. H...	30	9	9	82	0	.....	Advanced pulmonary tuberculosis; abundant sputum; bacilli.	Marked tuberculous condition. Slight recuperative power.
22	Mr. T...	22	5	6	89	0	.....	Last stage, pulmonary tuberculosis. Died two days after taking blood films.	Marked tuberculous condition. No recuperative power. Granules with basophile tint.
23	Mr. E...	21	6	12	81	⅛	⅛	Advanced pulmonary tuberculosis. Died one month after taking blood films.	Marked tuberculous condition. No recuperative power.
24	Miss C...	16	9	17	73	0	1	Tuberculous meningitis. Died soon after taking blood films.	Marked tuberculous condition. No recuperative power. Absence of eosinophile cells; granules basophile; myelocytes.
25	Mr. B...	58	9	11	80	⅛	.....	Advanced pulmonary tuberculosis; purulent sputum; bacilli. Last stage.	Tuberculous condition well marked. Very little recuperative power. Granules slightly basophile.
26	Mr. S...	25	35	11	52	2	.....	Tuberculous periostitis. Amputation. Recovery. Blood examination five weeks after amputation.	Slight tuberculous condition. Strong recuperative power.
27	Mr. B...	16	7	12	80	⅛	⅛	Tuberculous abscess of spine with necrosis of vertebra; constant suppuration.	Marked tuberculous condition. Slight recuperative power.
28	Mr. H...	...	28	15	60	2	.....	Tuberculous hip-joint disease. Improvement slow.	Marked tuberculous condition. Slight recuperative power.
29	Mr. B...	58	21	11	59	9	.....	Tuberculous knee-joint; no suppuration.	Marked tuberculous condition. Bone probably involved.
30	Miss M.	22	9	13	77	0	1	Tuberculous adenitis of cervical glands. Severe form.	Tuberculous condition well marked. Feeble recuperative power.
31	Mr. X...	25	25	13	57	5	.....	Strong tuberculous history. Subject in perfect health.	Tuberculous condition slightly marked. Very strong recuperative power.
32	Mrs. X..	28	22	11	65	2⅛	⅛	Strong tuberculous history. Marked tuberculous predisposition.	Marked tuberculous condition. Strong recuperative power.
33	Mr. S...	53	8	21	70	1	.....	Tumor in left side. Diagnosis not made.	Tuberculous condition. Strong recuperative power.
34	Mr. H...	41	12	13	74	1⅛	.....	Strong tuberculous predisposition. Not yet broken down.	Tuberculous condition marked. Strong recuperative power.
35	Miss L.	24	21	6	70	3	.....	Malarious anemia. No tuberculous history.	Tuberculous condition not present.

Of these thirty-five cases six were test cases: 1, 3, 5, 32, 33 and 35. In each of these the blood was examined and diagnosis made without any knowledge of the history or physical condition. These six cases are classified as follows:

Incipient pulmonary tuberculosis, 1, 3, and 5.

Pretuberculous, not yet having reached the active stage of the disease, 32 and 33.

Non-tuberculous, 35.

The diagnosis made from the blood was in each of these cases confirmed by the attending physician.

It will be observed that there is no single characteristic in tuberculous blood which, if once learned, will enable us to diagnose the disease. We may have, and generally do have, except in well-advanced cases, three conditions of the cells existing at the same time and found in the same specimen: cells in (*a*) the normal condition, (*b*) beginning disintegration, and (*c*) advanced disintegration. It must be remembered also that there is no distinct dividing line between them. They blend insensibly into each other. Experience alone will enable us to educate the eye to distinguish these varieties.

In the study of tuberculous blood we should not only ascertain the percentage of each type of leucocyte, but also classify each type according to the

Degrees of Disintegration.—Beginning disintegration is characterized by a rupture in the contour of the cell, with globules of hyaloplasm passing out, leaving a depression in the cell corresponding to the amount of tissue lost—cell contour partly destroyed. Complete disintegration is characterized by a complete breaking up of the cell into small masses, and these scattering—cell contour entirely destroyed.

Many leucocytes in tuberculous blood do not show evidence of either of these forms of disintegration, but possess characteristics which a study of the foregoing cases has caused me to interpret as meaning lowered vitality, weakened functions.

The characteristics of diminished recuperative power are: (*a*) poorly stained or transparent nuclei; (*b*) granules of phagocytes diminished in number, poorly stained, and scattering; and (*c*) a decrease in number or a marked disintegration of the eosinophile cells. In many cases these characteristics predominate, while in others they are present in only a small percentage of the leucocytes.

Although the eosinophile cell continues to be enshrouded with much mystery, the recent researches of Kanthack and Hardy, of Cambridge, have undoubtedly given us much light upon the subject. They claim that the eosinophile cells are the advance guards of the phagocytes. The eosinophile cells first surround the bacilli and throw off some of their granules, or secrete a substance which renders the bacilli inactive, and while they are in this state the phagocytes surround and devour them. Therefore, with this interpretation of their function, in any germ disease where there is a decrease in the number of eosinophile cells, or a marked disintegration going on in them, the recuperative power of the organism is greatly diminished. Hence a study of tuberculous blood should reveal two important points: first, the degree of the tuberculous condition; second, the degree of the recuperative power.

Although the first of these is important, yet we must grant that it is equally important both to the patient and to the physician if we can ascertain the amount of recuperative power possessed by the patient, for upon this depends the probable chances of recovery or ability to combat the disease. If our fundamental hypothesis be correct; if the individual has a true prototype in his leucocytes; if the condition of the one can be ascertained from the appearance of the other; if the leucocytes are tissue formers; if it is true that as are the leucocytes so is the individual, then the real source of the recuperative power should be sought for in the leucocytes.

After a careful study and comparison of the blood appearances in all varieties of tuberculosis, I have observed that the nearer the blood characteristics approach the following, the greater is the

Contraindication of Tuberculosis.—We may see normal or approximately normal percentages of all varieties of leucocytes; absence of giant lymphocytes; absence of myelocytes; very little cell disintegration; very little débris from

disintegrating leucocytes; well-stained nuclei; phagocytes with cell-body clearly defined and granules rich in number and well stained; uniformity in size and appearance of the phagocytes.

While, on the other hand, the following are the characteristics of tuberculous blood, which vary according to the severity of the case. Marked deviation from the normal percentages of all varieties of leucocytes. Great decrease in percentage of small lymphocytes. Great increase in percentage of phagocytes. Usually, a marked increase in percentage of large lymphocytes. Many giant lymphocytes with irregular contour and protruding globules of hyaloplasm. Eosinophile cells absent or few in number only in severest cases. Myelocytes occasionally present. Marked cell disintegration. Many groups of débris from disintegrating leucocytes. Phagocytes with indistinct cell contour, and granules few in number, poorly stained, and scattering. Marked irregularity in size and appearance of phagocytes, dwarf phagocytes as small as lymphocytes, giant phagocytes double the usual size with five or more nuclei. Often a clear, narrow, and sharply defined ring separating the nucleus from the cell body in small and large lymphocytes. Phagocytes with granules taking a basophile tint, evidence of approaching dissolution. Grouping together of a large number of phagocytes observed before dissolution. Very little disintegration in red cells.

From a review of blood appearances in the foregoing cases, I have made the following deductions: First, that the degree of the tuberculous condition can be estimated by (*a*) the amount of deviation from the normal percentage of each variety of cells; and by (*b*) the amount of cell disintegration in each variety. Second, that the degree of the recuperative power is estimated by (*a*) the staining power of the nuclei; (*b*) the percentage of leucocytes with no evidence of disintegration; (*c*) the abundance of well-stained granules of the phagocytes; and (*d*) the abundance of eosinophile cells rich in granules.

The following tables will show quite plainly the peculiar percentage variation for small lymphocyte and phagocytes in the various stages of the disease.

TABLE II.
PRETUBERCULOUS CASES.

	31.	32.	33.	34.	Normal Percentages.
Percentages of small lymphocytes	25	22	8	12	26
Percentage of phagocytes	57	65	70	65	65

In pretuberculous cases, those which have not yet developed an active lesion, the percentage of small lymphocytes is normal or subnormal; and simultaneously, with the decrease in the percentage of small lymphocytes, there is an increased percentage of phagocytes.

TABLE III.
CONVALESCENT CASES.

	10.	11.	12.	13.	14.	26.	28.	Normal Percentages.
Percentage of small lymphocytes	26	23	31	37	32	35	23	26
Percentage of phagocytes	51	59	63	53	53	52	60	65

In convalescent tuberculosis the percentage of small lymphocytes is approximately normal or above normal; and simultaneously with the increase there is a decreased percentage of phagocytes.

TABLE IV.
SHOWING RANGE OF PERCENTAGES FOR PRETUBERCULOUS AND CONVALESCENT STAGES.

	Percentage of Small Lymphocytes.	Percentage of Phagocytes.
Normal state	26	65
Pretuberculous condition	8 to 25	57 to 74
Convalescent tuberculosis	23 to 37	51 to 68

TABLE V.
INCIPIENT CASES.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	Normal Percentages.
Percentage of small lymphocytes	7	13	16	11	13	9	12	12	16	26
Percent. of phago'yt's.	73	71	74	77	74	66	74	74	70	65

TABLE VI.
ADVANCED CASES.

	15.	16.	17.	18.	19.	20.	21.	27.	30.	Normal Percentages.
Percentage of small lymphocytes	8	7	7	8	8	10	9	7	9	26
Percentage of phagocytes	81	87	74	81	80	80	82	80	77	65

TABLE VII.
CASES IN LAST STAGE.

	22.	23.	*24.	25.	Normal Percentages.
Percentage of small lymphocytes	5	6	9	9	26
Percentage of phagocytes	89	81	78	80	65

* Tuberculous meningitis an exception. Percentage of phagocytes lower

TABLE VIII.
SHOWING RANGE OF PERCENTAGES FOR THE ACTIVE STAGES OF THE DISEASE.

	Percentage of Small lymphocytes.	Percentage of phagocytes.
Normal state	26	65
Incipient tuberculosis	7 to 16	66 to 77
Advanced tuberculosis	7 to 10	74 to 87
Last stage of tuberculosis	5 to 9	80 to 89

From the tables we make the following important deductions: First, as the tuberculous condition becomes more marked and the gravity of the case increases, the percentage of small lymphocytes decreases and the percentage of phagocytes increases.

Second. As the tuberculous condition becomes less marked and the convalescence increases, the percentage of small lymphocytes increases and the percentage of phagocytes decreases.

Many other deductions might be made from the tables with reference to the physical condition of the patients. For example, in all cases in which the blood shows the usual tuberculous characteristics, together with an increase in the phagocytes to 80 per cent. or over, it is quite safe to diagnose advanced pulmonary tuberculosis with cavity, profuse expectoration and abundant bacilli; or if surgical tuberculosis, an abscess with more or less discharge of pus.

I do not wish to be understood as saying that all of the appearances that I have described are necessarily present in each case of tuberculosis. Neither do I wish to say that many of them are not found in other diseases. But I do claim that a peculiar combination of blood appearances is characteristic of this disease, to the extent that they will enable us to make a diagnosis at an earlier date than by any other means that we now possess. It is quite probable that the near future will justify a stronger statement, that from the blood condition we will not only be able to diagnose tuberculosis, but that in many cases it will enable us to distinguish the various stages of the disease, and hence will be a valuable means of following the course of the disease under various methods of treatment.

In conclusion I will review this study with the following summary: That the diagnosis of tuberculosis, from the morphologic appearance of the blood, rests upon the hypothesis that each individual has a biologic prototype in the leucocytes of his own blood. That leucocytes are independent organisms with functions analogous to those of the larger organism. That they pass through stages of growth and decay. That disintegration of leucocytes may occur at any age. That the leucocytes are tissue formers. That, as are the leucocytes, so is the individual. That tuberculosis is a disease characterized by tissue disintegration. That in tuberculous blood there is abundant cell disintegration, premature development, premature decay, and more or less deviation from the normal percentages of the various types of cells. That if there is marked disintegration in the leucocytes, it is with absolute certainty that we can predict a similar condition in the larger organism. That tuberculosis posesses a combination of blood appearances, from which a diagnosis may be made earlier than by any other means that we now possess. That these may be recognized by appropriate microchemical stains and under a high power. That they can be recognized even before the disease manifests itself in the individual. That they are sufficiently in tuberculous person, or even in those with a strong tuberculous predisposition, to enable a diagnosis being made from the blood alone, without knowledge of the history or physical condition. That the real source of the recuperative power is to be found in the leucocytes. That thus far no other pathologic condition has been found which presents similar blood appearances. That to secure an early diagnosis would enable many to avail themselves of favorable climatic changes, and thereby delay or even prevent the destructive results which would otherwise inevitably follow. And, finally, that if future investigations confirm these deductions, we may look forward to a no distant day when, if we expect to detect tuberculosis in its incipiency, we must study the leucocytes.

"I don't see why you don't have happy endings to your novels," said the social cynic. "Happy!" cried the author. "Why, I marry the heroine to the hero every time." "Yes," replied the cynic, "that's just the trouble."—*Chicago Post.*

EMPYEMA OF THE ANTRUM OF HIGHMORE.*

Empyema of the antrum of Highmore has been for years well known to surgeons both in this country and abroad, but was considered rare on account of a want of comprehension of its symptoms. Jourdain, Deschamps, Cooper, and Desault in the eighteenth century had described it, and Deschamps had even advised catheterization of the antrum by the normal orifice, a piece of advice, however, much more easily given than followed. The antrum was already opened through the canine fossa by Lamourier and Desault, while the alveolar process had been used as a point of approach by Meibomius and Cooper. These cases were of the acute and violent type, and were rare, as they are at the present time.

In the records of the Massachusetts General Hospital for the last twenty years I can find but about a dozen cases, and they are all of much the same character. The patient usually entered the hospital complaining of great pain and soreness over the antrum. On examination the whole side of the face was found to be red, swollen and tender, and perhaps fluctuating at some point below the orbit. The question at first arose as to whether the inflammation was in the antrum or external to it, and in the soft tissues only. Carious teeth were now looked for and extracted when found, and the antrum was washed, the fluid entering at the sinus and passing out of the alveolar opening thus made, The antrum was then packed, or perhaps curetted, and the patient allowed to leave the hospital in a week or ten days, with directions to wash the cavity daily through the alveolar opening. Unfortunately, most of these cases occurred so long ago that it is hopeless now to follow their history. No mention of any nasal examination is recorded in any of the older ones, but in most of them carious teeth play an important part. No allusion is made to a possible specific cause, although in the light of our subsequent cases it should, I think, always be considered. Several of these cases occurred in young children from five to seven years of age, and show that where rhinitis persists in childhood antral disease should be thought of. Within the last few years much has been written about the antrum and other sinuses, and light has been thrown upon many obstinate cases of rhinitis which were formerly considered incurable.

Milder cases are usually signalized by a discharge of more or less purulent character from one or the other nostril, usually accompanied by a foul smell, unlike the smell of ozena, to the patient himself. This discharge may, of course, be bilateral if both cavities are involved, but it is not usually so. With this history there arises a consideration of the conditions which may give rise to a unilateral nasal discharge, and these are a foreign body in the nostril, syphilitic disease, and empyema of one of the accessory cavities. On examination of the nose we find the passage clear, thus eliminating foreign bodies. If there is no sign of syphilis, no necrosis of the septum or perforation of its bony wall, we can rule out nasal syphilis with probability. We are then left with an empyema of a sinus, and must make a careful diagnosis as to which accessory cavity is effected. We have to consider in the order of frequency antral, frontal, ethmoid and sphenoid empyema. Disease of the antrum is by far the most common, probably on account of the connection of that cavity with the teeth, many authors believing that it is ten times so frequent as empyema of any other sinus. Of course the first point to be looked for is the location of the discharge. If pus is seen issuing from under the middle turbinate, the diagnosis is simplified, since the frontal sinus, the anterior ethmoidal and the antrum have their outlets in that region. The nostril should, therefore, be carefully cleansed and wiped dry with a pledget of cotton, and then the point of issue of the pus carefully noted. If the pus comes from under the middle turbinate, we next have to differentiate between the antrum, the frontal and anterior ethmoidal

* Frederic C. Cobb, M.D., Boston, Mass., in *International Dental Journal.*

cells. This is often a difficult matter, and many expedients have been resorted to in deciding which cavity is affected.

The presence of necrosed bone in the ethmoid region, and the location of the pain, may determine the diagnosis in favor of that cavity. If these signs are wanting, we are left to make a diagnosis between frontal and antral empyema. The location of the pain is here not absolutely reliable, for frontal pain is met with in empyema of the antrum. We may find redness or tenderness over the frontal sinus, and it is recommended to probe the sinus through its opening in the infundibulum. If this fails, the anatomical exits of the sinuses may be taken advantage of for the purpose of diagnosis in the following way: As the frontal and ethmoidal have their openings at their lowest parts, while the antral opening is at its highest part, it is evident that the two first sinuses are best drained when the head is in an upright position; but the antrum, when the head is inverted. The patient is therefore directed, after his nostrils have been wiped clear of pus, to put his head between his knees, and, if, after a few moments, on assuming the erect position, the nostril is found full of pus, it has probably come from the antrum. The method of transillumination by putting a small electric lamp in the mouth and darkening the room, is sometimes useful, but does not always give certain results; for the variation in the thickness of the walls of the antrum may be considerable, and the skin may be too thick to transmit light well; if these methods fail, recourse must be had to exploratory puncture by the lower meatus, canine fossa, or alveolar process. The former is preferable for the following reasons: First, the wall is usually very thin, and second, there is little or no reactionary inflammation. I have found, in perforating the canine fossa, an immediate swelling of the cheek, which much distorted the face for some days. The passage of the canals was painful, and seemed to increase the swelling. The alveolus is often thick, and therefore more difficult to use as a means of approach. It is, however, on account of its connection with the lowest part of the cavity, and on account of enabling the patient to wash out his own antrum, rapidly becoming the favorite location for puncture.

If it is decided to puncture by the lower meatus, a strong trocar should be introduced below the lower turbinate and turned obliquely outward as far as the nostril will allow, and then pushed through into the sinus. Often, however, the bone is too thick to permit of this proceeding; it is therefore better, I think, to use a trephine or bur propelled by a dental engine. When the trephine has entered, this is at once felt by the sudden lack of resistance, and it is withdrawn, a canula of the same size fitted to an aspirating syringe introduced, and some of the contents of the antrum removed. For accurate diagnosis this proceeding is better than at once washing out the pus, because the fluid passing over the middle meatus may carry with it pus from the infundibulum, which has not necessarily come from the maxillary sinus. Usually the first washing is accompanied by a very considerable discharge of intensely foul-smelling pus.

If the pus be too thick to be drawn through an aspirating tube, washing is in reality the only method of ascertaining its presence. In such cases the nostril should be carefully wiped out before washing the antrum. The odor from pus in long-standing antral empyema is almost unbearable. Frequently in suspected cases at the time of observation no pus is seen in the middle meatus, and the surgeon is obliged to make the patient lower the head in the manner already described, so as to drain the antrum. Often the patient's history—that pus appears when he lies on the sound side—will give the observer a hint as to the best way of obtaining the discharge. I have found a peculiar thin brown mark on the handkerchiefs a valuable guide to diagnosis. This stain has disappeared in the cases treated and cured, and much lessened in those constantly washed. In one case, where nothing could be seen in the nostril, and yet a constant thin brown spot on the handkerchiefs appeared, a probe wound with cotton was inserted under the middle turbinate, and on being removed, the stain on the cotton and on the handkerchiefs was found to correspond very well. The

antrum was opened through a tooth-socket and washed and cured, the stains disappearing from the handkerchief after a few washings.

Mackenzie has suggested that the pus discharge be examined for bacilli, and this has been done, with as yet no important results as regards diagnosis. The staphylococci pyogenes aurens and albus and citreus, and the pneumococcus of Telamon-Frankel, have been found, the latter of interest, since pneumonia is recorded as having followed antral disease. The prognosis in cases as regards time of continuance is not of the best, as untreated suppuration lasting many years or through life. It may give rise to many complications directly due to an affection of its neighboring organs or structures, and indirectly to disease of distant organs. Of the neighboring organs the eye is perhaps most frequently affected, and we have iritis, panophthalmitis, narrowing of the field of vision, orbital abscess, and lid abscess, all following empyema of the antrum. Of the skin of the face, facial abscess and pyodermatoses are mentioned, while in ear and throat acute otitis media (from entrance of pus into the Eustachian tube) and peritonsillar abscess (probably from the passage of pus over the tonsillar region) have been noted. In more distant organs we find reported pneumonia, lung abscess, arthritis, and nephritis. In none of the cases shown by me have any of these complications occurred. As to the question of treatment of empyema of the antrum, there is much diversity of opinion. In the fulminant cases there is no question that a wide opening and drainage are imperative. In latent cases, on the other hand, the results of brilliant surgery do not seem to be as gratifying as in some other localities.

It goes without saying that the cause must be carefully sought if we are to cure the condition. The most common causes of empyema of this sinus are, I think, in the order of frequency, carious teeth, nasal obstruction, and syphilis. Epidemic influenza seems to have played a prominent part in many cases. In most of my patients the teeth have been an important factor, and in two of them antisyphilitic treatment has decided the diagnosis.

With regard to the location of antral puncture authorities differ, although the weight of opinion seems to be in favor of the alveolar opening. Most of my cases have been washed through the lower meatus, although some have been washed through the canine fossa and the alveolar process. The advisability of a large or small opening into the antrum is still in dispute. Most surgeons believe in the former, while Zeim, with his enormous number of cases, advocates the latter. He, however, makes up for the smallness of the opening by using a powerful pump, which sweeps the antrum out under pressure as it were. Bosworth, on the other hand, advises making an opening in the alveolar process large enough to admit the little finger and thoroughly exploring the antrum. This certainly seems a most rational method of procedure.

INFLAMMATION OF BONE.*

In discussing inflammation of bone tissue I purpose to take issue with well recognized authorities on some points regarding this particular inflammation. Inflammation of bone tissue presents the same phenomena characterizing inflammation of other tissues, and the same pathologic changes, and there is no particular difference in the cause,—all inflammations depending upon a pathologic condition. Although the focus of infection is usually in the medullary canal or medullary substance in the cancellous tissue, the entire structure, medulla, bone and periosteum, is soon involved in the process. It is of little consequence, therefore, where the focus of infection is from a clinical standpoint; but from a medico-legal and an etiologic consideration it is of paramount importance.

I shall confine myself to the discus-

*Andrew L. Fulton, M.D., Kansas City, Mo., in the *Railway Surgeon.*

sion of the so-called spontaneous suppurative osteomyelitis and to the tubercular variety of osteomyelitis. There is scarcely any dispute regarding the etiology in cases of direct traumatic, suppurative osteomyelitis, and it is generally conceded that the cause of spontaneous osteomyelitis is the arrest of infected micro-organisms that have made their way into the circulation from a more or less remote suppurative process or abscess cavity, a metastasis, or, through the intestinal tract or mucous membrane of the respiratory tract. Consistent with this I have for several years held to the opinion as a reasonable and logical conclusion that the tubercular type of inflammation has its origin in and is conveyed to a *locus minoris resistentiæ* from an antecedent pathologic condition. I shall further assume, and not without good clinical evidence, that the suppurative and tubercular character of inflammation respectively present the same anatomic features and like conditions as to the age of the patient and the point of infection. If the one is not due in any sense to a slight trauma without a wound, the other, tubercular osteomyelitis, will justify the same conclusion.

Acute spontaneous suppurative osteomyelitis is almost exclusively confined to children and young adults prior to the bony union of the epiphysis with the diaphysis, and next to the tubercular inflammation is most frequent of all inflammatory disease of bone. The point of departure of the disease, or the focus of infection, in these cases is either in the medullary substance in the canal of the long bones or in the same substance in the diaphysis near the epiphyseal line. The anatomic peculiarities of bone in children favor the development of the disease. The large, dilated capillaries, active circulation and what seem to be terminal or end vessels of the diaphysis at its junction with the epiphysis are anatomic conditions favorable to the arrest of the infected leucocytes or emboli; the morbid process having originated in this way in the medullary tissue, extends to the bony structure or adjacent bone tissue, then to the periosteum and para-periosteal tissue, and forms an abscess which marks the progress of the disease.

Aside from the cases in which we have direct infection from compound fractures or wounds, the cause of the suppuration is obscure. It is a well-known clinical fact, however, that exposure to cold from bathing in cold water, over-heating and rapid cooling, lying on damp, cold ground and the like, may cause apparently healthy children to suddenly contract suppurative osteomyelitis. There seems to be something still unknown regarding the character, origin and cause of pus formation where there is no external wound open, fracture or pre-existing suppuration elsewhere. We know from clinical experience, however, that acute attacks of suppurative osteomyelitis may occur at any time without the slightest apparent cause, running a rapid and very destructive course. The reason for the entrance of the pus microbes into the general circulation is a matter of great wonder, but the fact that the micro-organism is carried to a particularly vulnerable issue is not so strange.

The following clinical features usually constitute the picture of a typical case of suppurative osteomyelitis. The child, or young adult in ordinary good health, is suddenly seized with severe pain at or near the epiphyseal line of a long bone; a chill almost immediately follows. The pain increases and becomes excruciating and is of a throbbing character, and while not exclusively confined to the focus of infection, is sufficiently limited to direct our attention to the area involved, knowing that, as a rule, the primary infection is at or near the distal side of the epiphyseal line, where there is a positively well-defined point of tenderness on pressure, marking the involvement of the periosteum. All the symptoms of inflammation will not be observed until the soft parts are involved on account of the infected focus being walled in by the bony structure surrounding it. In the cases where we have neglected surgical interference, or have been mistaken in the diagnosis, we will be guided by the continuous rise of temperature and the distressed appearance of the patient (typhoid symptoms), symptoms that should always be looked upon with suspicion. The swelling, redness, etc., are absent in the early stage of the disease on account of the

primary inflammation being located in the interior of the bone, but so soon as the inflammatory product has tunneled through the osseous tissue, all the other symptoms of inflammation and suppuration are at once manifest. These symptoms should never be allowed to supervene unprotected by surgical recourse. I have frequently observed these clinical features developing rapidly in children who had been exposed to cold, and terminating in the formation of large pus cavities, without suspicion of anything except ordinary malarial fever. In these cases there was positively no assignable cause, except the spontaneous development through the agency of the pyogenic cocci, no history of injury of any kind having been observed.

Tubercular osteomyelitis, while much more common than suppurative inflammation, often terminates in the same way that acute suppurative osteomyelitis does. It is, however, especially chronic in its nature. The only real difference between the two diseases is pathologic and etiologic. Instead of the destructive pyogenic cocci incident to suppurative myelitis, we observe the tubercle bacilli which transform the normal connective tissue cells into embryonal or granulation tissue cells. The subsequent course after the focus of infection is established depends much upon the extent of the inflammation and rapidity of its course. The tubercular disease may pursue a course quite like suppurative osteomyelitis when the inflammatory product far exceeds the resorption capacity of the granulation tissue, as may be observed in many of the cases of hip-joint disease. The only diagnostic symptom in such cases, in fact, in any case, is the presence of the tubercle bacilli. When there is mixed infection—pyogenic cocci and tubercle bacilli—we should be able to demonstrate the pus micro-organism and the bacilli of tuberculosis by culture. In other respects, such as the anatomic conditions, the age of the patient, and the area of infection, there is little difference between the two diseases. In our clinical observation, however, we may be able to distinguish fairly correctly by the acute attack, the great pain and the higher temperature in the suppurative variety, as compared with the chronicity and lower temperature, with an evening rise and failing health, due probably to a primary infection elsewhere, denoting secondary metastatic tuberculosis in the medullary substance of the bone.

So far as the etiology is concerned I claim that no case of tuberculosis depends upon trauma, slight or severe. It has not been claimed that tuberculosis of the lungs or other glands depend upon traumatism as an exciting cause, yet bone is of the same histologic structure and presents the same pathologic change as lung tissue and infection in both is the same. There is no doubt in my mind that the medulla of the diaphysis is the most susceptible to tubercular infection of any of the anatomic structures in children. Authorities, in speaking of tuberculous bone, use the stereotyped expression, "it is often due to slight trauma;" in other words, a trauma that has not been observed. Taking into account the anatomic features already spoken of in connection with suppurative osteomyelitis, and the deep-seated point of infection, I have always been constrained to believe a slight injury is simply the means of calling attention to an existing focus of infection in the medulla of the diaphysis of bone and has nothing to do with the origin of the disease. The tuberculosis has been established. Slight periosteal inflammation has set up over the focus of infection in the medulla, and an insignificant blow merely marks its location. Tuberculosis does not develop where a child is apt to sustain an injury. Moreover, if it were due to trauma, children running about striking against this or that a hundred times or more in a day, would be quite liable to contract tuberculous trouble of the bones. On the contrary, exceedingly few children are afflicted with tuberculous disease of bones compared to the large number who contract other diseases when exposed. It is fair to presume that if it is ever due to slight trauma it would begin in the periosteum or more compact tissue of bone, a location where we seldom, if ever, find the disease primarily. I maintain that it depends upon a predisposition and pre-existing tubercle that finds a vulnerable structure where the infection is lodged, and

the reason we attribute it to slight injury is that there is a tender spot, a diagnostic symptom, on deep pressure of periosteal inflammation having been established following the disease in the deeper portion of the bone tissue, namely, the medullary substance. The patient, in running about, probably strikes the limb against something, over the point of tenderness, and in this way makes the first complaint, through which the disease is attributed to that special injury, when such injury had nothing to do with the origin of the disease, except in a damage suit for personal injury.

In all suspicious cases of bone disease the surgeon should be constantly on the watch for the development of inflammation, and so early as possible, after the first evidence of tenderness serving to locate the infected area is observed, surgical interference should be resorted to, either by means of parenchymatous injection of iodoform emulsion, or the more radical operation for the removal of the limited foci in the medullary substance. There is no possible means of escape for the non-absorbable product of inflammation except by penetrating the bony structure externally, then the periosteum, and finally the para-periosteal tissue. This in young adults is often quite tedious, and very great destruction may occur before nature has accomplished the necessary results to effect a cure. It is in these cases that we should be particular in making our diagnosis.

The preparation in these cases should be quite as thorough as if we were preparing for an abdominal section. Perfect cleanliness, and the use of antiseptics cannot be too strictly observed. The point of infection having first been detected and the field of operation rendered absolutely aseptic, and the limb if possible rendered avascular, an incision should be made down to the bone. This should be trephined and the product of the inflammatory process cleared out, after which the bone cavity should be filled with iodoform, and the wound packed with iodoform gauze and closed up, with the exception of the drainage opening. Dr. Nicholas Senn's apparatus for forcible injections of iodoform emulsion is very useful in cases of limited tuberculous foci. Even if we are mistaken in our diagnosis little harm, if any, will be done by the operation carefully performed. If the inflammatory trouble exists great benefit will be accomplished, and much tissue saved that would under other circumstances have been destroyed by the destructive inflammatory process, to say nothing of the danger to the life of the patient.

In conclusion I desire to emphasize a few salient points.

First—Neither spontaneous suppurative osteo-myelitis nor tubercular osteo-myelitis originates in the compact tissue of bone primarily.

Second—The structures involved in the primary infection in each are exact anatomic counterparts.

Third—The conditions under which the infection originates are alike.

Fourth—The infection in both forms of inflammation is conveyed to a *locus minoris resistentiæ*, under like conditions.

Fifth—The area of bone tissue involved is far remote from the part where a slight trauma could obtain through the blood current.

Sixth—The infection and inflammation always exist prior to the injury supposed to produce it.

Seventh—*Restitutio ad integerum* without the formation of an abcess never occurs.

Eighth—To preserve bone tissue and protect the health or life of the patient an early and thorough operation is imperative.

O'Hara—She was a good wife to me, poor woman. Many's the word of good advice she gave me.

McGoogan—Thrue for yez, an' many's the time Oi've heard her advizin' yez when Oi lived in the house beyant, a mile up the road, ochone!—*Troy Times.*

Archie, who had never seen gas-jets, had been away on a little visit. "And were you careful about going near the lamps?" asked his mamma. "They don't have lamps," replied the little fellow. "They just light the end of the towel-rack."—*Exchange.*

Miss Justout—What do you consider the marriageable age?

Outal Knight—Anywhere between the seminary and the cemetery.—*Truth.*

SOCIETY REPORTS.

MEETING OF THE DELAWARE COUNTY MEDICAL SOCIETY, CHESTER, PA.

November 19, 1896.

Report of the Board of Censors returned and approved.

A resolution was presented to the society by Dr. Francis F. Forwood, looking to the appointment of a committee to take charge of the registration of nurses, and to establish a bureau of registration.

DISCUSSION.

DR. JEFFERIS. The urgent necessity for some action of this kind has suggested itself to me because of my personal knowledge of one patient in this town who lost her life on account of the criminal negligence or inexperience of the nurse. Only a few days since I called to see an obstetric patient, whom I had left in good condition the day before. Found the patient with a temperature of 105°; and upon questioning the nurse, discovered that she had packed against the vaginal opening a cloth saturated with ordinary lard, thus retaining the secretions and rendering the patient liable to septic infection. In addition to this she had, contrary to my injunction, used cool water for vaginal flushing. There are forty such women in Chester. Such a woman ought not to be allowed to attend obstetric cases. We certainly need a nurses' exchange, where a reliable nurse can be procured in an emergency. I have 'phoned around for an hour at such a time in the endeavor to procure a suitable nurse. I am glad the old description of nurse is dying out, though, in justice to them, I must say they are not all bad.

DR. FRANCIS F. FORWOOD.—In a town in Maryland where I formerly practiced medicine, a plan similar to the one outlined in the resolution was carried out with marked success. Philadelphia exchanges are managed in a very satisfactory manner. At such bureaus one can get all information necessary of any special nurse whose service it might be desirable to obtain, such as date of expiratiou of present services, character of the disease for which the service was last required, whether contagious or otherwise, etc. Generally, two weeks are allowed to elapse after attending contagious cases before taking new service. A small charge is made for such registration, the amount of which is fixed.

DR. ULRICH.—This matter belongs to the province of this society. The fee at the College of Physicians is, I think, $3. When a nurse is provided by the bureau of registration a fee of $1 is charged to the person making application. An important feature of these exchanges is the reports of the physicians upon the work of the nurses in attendance upon the patients under their charge. This is provided for by means of blank forms which the physician is required to fill out.

DR. W. KNOWLES EVANS.—I have a case to report similar to that of Dr. Jefferis, but in which the treatment by the nurse was carried out further and the inner vaginal walls were anointed with rancid lard.

DR. ULRICH.—This board for the registration of nurses should be entirely under the control of physicians. Dr. Keen, with whom I have talked, has made a careful study of this question and from him I have acquired many valuable points. * * * *

Resolution was adopted and Dr. Stoever, Dr. Francis F. Forwood, and Dr. Maison were appointed to serve.

It was suggested by Dr. Ulrich that copies of the by-laws of the exchanges in Philadelphia should be procured, and the committee was given full power to act, subject to the approval of the society.

Dr. Francis F. Forwood read a paper on "Observations in General and Local Anesthesia."

DISCUSSION.

DR. MAISON.—Do I understand Dr. Forwood to assert that the preparation mentioned—eucain—is more satisfactory and can be substituted for cocain in all cases?

DR. FORWOOD.—It presents advantages over cocain in all surgical cases. Its action is just as powerful without the danger of concentration of a cocain solution and its consequent poisonous effect on the nerve cells. It has the anesthetic effect without the depressing action on the heart which is common with the use of cocain.

DR. ULRICH.—How many injections are necessary to produce the desired effect?

DR. FORWOOD.—My plan of injecting is as follows: If the tissue to be incised is inflammatory, I begin back in the healthy tissue, enter the needle and inject a few drops of solution. This makes a wheal the circumference of which represents an anesthetic area. Then using the point of this anesthetic area which is nearest the line of incision, I inject again a few drops, and so on until I have made an anesthetic area through which I desire to cut. The operation is then absolutely painless. Dr. Schleich has used the formula in 3500 cases without any untoward results.

DR. J. L. FORWOOD.—What extensive operations has Dr. Schleich performed?

DR. FRANCIS FORWOOD.—Dr. Schleich has performed amputation of the leg, and

breast, removal of hemorrhoids, hydrocele, etc., with this anesthetic solution. In performing operations in which deeper tissues are included, deep and extensive infiltrations are used, and it is here especially that the method of local anesthesia under discussion shows to advantage over any other process for producing local anesthesia known. Cocain is a cell poison and in concentrated solution produces necrotic tissue. In the amounts necessary to produce anesthetic results similar to those obtained by the Schleich fluid, it is always dangerous, the strength of the Schleich fluid being one-fifth of one per cent. against five per cent. in the solutions of cocain formerly in use.

I met Dr. Schleich when he was in Philadelphia, and saw him do the open operation on hydrocele, also saw him operate on hemorrhoids. In the latter operation he began his injection in the manner referred to above, around the base of the tumor, and later injected the tumor to five times its size with the anesthetic fluid. Then the tumor was incised with absolutely no pain and the base sewed up, making a clean incision. I believe that in nine-tenths of the cases of minor surgery will this method substitute the knife and general anesthesia.

DR. MCMASTERS.—In the excision of a non-inflammatory tumor how far back do you make the first puncture?

DR. FORWOOD.—Commonly about one inch. The injection produces pressure upon the nerve structure, nerve cells and small vessels. I believe that this pressure on nerve structure is a factor in the anesthetic effect, and its action on the small vessels prevents hemorrhage.

DR. J. L. FORWOOD.—In operation on structures such as a sebaceous cyst, do you depend upon subcutaneous injections or carry them deeper?

DR. FRANCIS FORWOOD.—Use subcutaneous injections primarily, and follow with deeper. In performing more extensive section the method commonly pursued is to precede the knife with the needle, producing your anesthetic areas in the direction to be followed by the knife. This is the method followed by Dr. Schleich and the innocuousness of the solution renders the free use of it possible. I must confess I was skeptical at first in regard to the method, but my first operation upon an ingrown toe nail, than which there is nothing more sensitive, convinced me.

There are two good reasons why the use of cocain causes death of tissues. First, it is an active cell poison. Second, it is generally used in a highly concentrated solution.

DR. BARTLESON.—I am using eucain entirely now.

DR. FRANCIS FORWOOD.—I assisted Dr. J. L. Forwood in removing nearly the entire half of the upper jaw, as result of necrosis from cocain injection.

DR. JEFFERIS.—What is the formula you commonly use for preparing the anesthetic?

DR. FORWOOD.—

Eucain hydrochlor (Schering)	gr. 1½
Morphia muriat	gr. 3
Sodii chlorid	gr. 3
Sterilized distilled water	oz. 3 drams 5

This is the No. 2 solution suitable for ordinary cases. For stronger solution double the amount of eucain.

DR. JEFFERIS.—How much of the normal solution is it safe to use?

DR. FORWOOD.—You can use fifty syringefuls before reaching the normal dose of cocain.

DR. J. L. FORWOOD.—The trouble with cocain is its uncertainty. I had a case recently in which I undertook in my office to remove a small tumor after injecting one-half grain cocain. I made the puncture in three places. Immediately after the injection the patient became white, and the heart nearly stopped. I could not operate and the patient was ill several days in consequence of the injection.

Some time afterward I had another case, in which I endeavored to operate under cocain for some long continued trouble in the lower bowel. The bowel was washed out previously and I injected with a blunt-pointed syringe a solution of cocain containing one grain, afterward rubbing it around the inside of the bowel with my finger. The patient became pale and I thought he was going to die. I had great trouble to bring him around, and had to postpone operation to a late date, when I operated under ether.

The urethra is inconvenient for the use of ordinary cocain solution, as it is almost impossible to remove the fluid from its walls sufficiently to get the prompt anesthetic effects of cocain solution. It would seem that a solution like the one mentioned would obviate this difficulty on account of the freedom with which it could be used. You could flood the parts with the solution without expecting any ill result. I am afraid of cocain and have largely discontinued its use.

A curious cause of death in a child transpired at an inquest, when it was elicited as the result of a *post-mortem* examination by Dr. Neild that the cause of death was due to hemorrhage, the result of puncture of the heart by a needle. The mother, it appears, was in the habit of carrying needles in her bosom, and probably the needle had stuck into the child while she was nursing it.—*British Medical Journal.*

The influence of sugar on the energy of the muscles has been investigated by Schumberg (Annals of Hygiene). He used mossoergograph, and found that the sugar produced no perceptible effect on fresh, unfatigued muscles, but that muscles fatigued from previous severe exertion were strengthened to a noticeable degree. This effect was attained whether the muscles were strong or weak.

PERISCOPE.

NEWS AND MISCELLANY.

Dr. Thomas H. Manley, whose researches in hernia and other special surgical lines have given him a national reputation, has become one of the teachers in the New York School of Clinical Medicine.

Petroleum is extensively used in Russia as a local application for the cure of gout, rheumatism, eczema and other chronic skin diseases. The city of Elizabethpol conducts an establishment called "Naphthalan," on the style of a watering-place where 500 to 600 patients are annually treated. Gratifying results are claimed.—*Am. Med.-Surg. Bulletin.*

The regular meeting of the section on pathology of the Buffalo Academy of Medicine was held December 15, 1896. Program: Exhibition of Gynecological Specimens, H. E. Hayd, M.D.; Perforation of the Uterus, Sidney Dunham, M.D.; Perforating Ulcer of the Intestine, N. G. Russell, M.D.; Comparative Anatomy of the Cecum—An Appendix Vermiformis in a Dog, A. T. Kerr, Jr.

A novel experiment was recently tried in Brooklyn, where meetings of public school teachers with the parents of the children under instruction have just been held, apparently with good results. Certainly the idea is an excellent one. The education of the child must proceed on the co-operative principle. Home and school need to be in touch one with the other to secure the best results for both.—*New York Observer.*

Dr. Boardman Reed, who has offices in the professional building at 1831-33 Chestnut street, has established a laboratory for the analysis of stomach fluids. He is prepared to analyze and to make a written report upon any such fluids which may be submitted to him; and when desired he will send a nurse who is thoroughly trained in such work, to take up the contents of the stomach after a test meal.

The Twelfth International Medical Congress will be held at Moscow, August 19–26, 1897. Claudius H. Mastin, M.D., of Mobile, Ala., has been requested, and has consented to serve as one of the members of the American National Committee of the Congress. The Central (Moscow) Executive Committee consists of the following: President, Prof. I. F. Klein; Vice-President, Prof. A. J. Kojownikow; Treasurer, Prof. N. F. Filatow; Secretary General, Prof. W. K. Roth; Secretaries, Prof. P. I. Diakonow, Prof. W. A. Tikhomirow, Prof. I. I. Heyding; Members, Prof. S. S. Korsakow, Prof. J. F. Ognew, Prof. W. D. Cherwinsky. It is officially announced that preparations are being made for the reduction of Transatlantic steamer and European railroad fares.

The Treatment of cases of acute anemia by injections of salt water is approved by Maygrier. He said that among the means at our disposal to struggle against hemorrhage of a grave character we have added, within the last two or three years, injections of artificial serum into the cellular tissue, or even into the veins directly. Lately, he had witnessed in his own practice most astonishing results from this method, and he would add, with other clinicians (Thomson, H. Spencer, Smith, Horrocks, etc.), that there should be no fear of injecting strong doses or of renewing them frequently. The patient who furnished him with the opportunity of trying the method was a woman, who was brought to the hospital in a dying state from placenta previa. The first attempts at provoking a delivery were accompanied by such grave attacks of syncope that death seemed to be imminent. He injected immediately two quarts of salt water directly into the vein of the arm at an interval of twenty minutes. The effect was magical, the woman who was apparently dead seeming to come back by a kind of resurrection. Shortly afterwards, parturient pains came on, and the child was expelled. The consequent loss of blood brought on fainting, and two more quarts were injected with similar good effect. But towards evening the patient showed again signs of sinking, and the injections were repeated, and this time with permanent effect, so that in the one day six quarts of artificial serum had been injected. If women are brought to us in a lamentable state of anemia, their condition ought to be improved by injections of serum before proceeding to deliver them. Certain *accoucheurs* have a grave dread of intravenous injections, but their fears were, in his mind, exaggerated. The mode of operating is of the simplest. The vein is laid bare and an opening made in it for the point of the canula. This canula is connected with the reservoir containing the serum by means of a tube. Care should be taken to exclude all air and to properly sterilize the instruments. If at any moment blood flowed back into the canula because the reservoir was not held sufficiently high (three feet), it might coagulate, and the danger of injecting a clot would be very great. In such a case the instrument should be withdrawn and all the blood emptied and then replaced.—*Med. Press.*

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2076. SATURDAY, DECEMBER 19, 1896. VOL. LXXV—No. 25

ORIGINAL ARTICLES.

THE LOCAL APPLICATION OF COLD IN ACUTE PNEUMONIA. BEING THE THIRD COLLECTIVE REPORT, WITH A DISCUSSION OF FEVER IN THIS DISEASE.*

THOMAS J. MAYS, A.M., M.D.,† PHILADELPHIA.

A little more than a year ago I had the honor of presenting to this Society my second collective report on the influence of cold in the treatment of pneumonia, which, with previous collections, comprised the histories of one hundred and ninety-five cases of this disease so treated, and this evening I beg leave to make a further contribution of one hundred and four cases to the same subject —making a total of two hundred and ninety-nine cases of acute pneumonia managed in this way. To the medical journals that again kindly published my late announcement inviting contributions, and to the medical gentlemen who so generously and liberally responded to my appeal, I desire to extend my grateful thanks. Of the one hundred and four cases, which are here given in tabular form, only ninety-four are reported fully enough to give the sex, age, highest temperature attained; highest number of respirations; number of days from rigor to crisis, or subsidence of fever; presence or absence of delirium; whether single or double pneumonia, recovery or death; and name and address of each reporter. In a few of the cases not all these data were furnished.

*Read before the Philadelphia County Medical Society, December 9, 1896.

†Professor of Diseases of the Chest in the Philadelphia Polyclinic, and Visiting Physician to the Rush Hospital for Consumption in Philadelphia.

TABULAR VIEW OF NINETY-FOUR CASES OF ACUTE PNEUMONIA.

Number.	Sex.	Age.	Highest temperature.	Highest No. of respirations.	No. of days from rigor to crisis or to subsidence of fever.	Delirium.	Single or double.	Recovery or death.	REMARKS.	Names and Addresses of Reporters.
1	F	5½	105	.....	6	No	S	R	Well and out of bed on seventh day.	M. V. Ball, Philada.
2	M	4	104	.....	8	No	S	R	Very serious case; cyanosed; oxygen used.	" "
3	F	5	104	30	9	Yes	S	R	Recovery was prompt.	" "
4	F	8	104	.....	4	No	S	R	"In my cases ice was well borne, allayed cough, and recovery, as a rule, was very prompt."	" "
5	M	3	104.8	52	5	Yes	S	R	Catarrhal pneumonia following measles.	Chas. E. Woodward, West Chester, Pa.
6	M	3	105.2	50	3	Yes	D	R	Catarrhal pneumonia following measles; convulsions for twenty-four hours. Both of these cases were "promptly brought under control by the application of ice."	" "
7	M	27	104	40	2	No	S	R	Resolution progressive and permanent.	Henry E. Tuley, Louisville, Ky.
8	F	9	.....	....	2	Yes	S	R	Crisis occurred twenty-four hours after ice was applied.	R. E. Buchanan, Independence, Ia.
9	F	25	.. ....	. ....	.....	Yes	S	R	"I now use cold applications in all pneumonias and eruptive fevers, with uniform success."	" "
10	M	7	.....	.....	3	Yes	S	R	Relief was prompt.	" "
11	M	38	105.4	36	8	Yes	D	R	Very critical attack in an alcoholic and apparently hopeless case. Two hours' application of ice brought the temperature down from 105.4° to 101°.	P. F. Metz, New Haven, Conn.
12	M	75	105.5	40	4	Yes	S	R	Third attack of pneumonia within two years.	" "
13	F	36	104	32	5	Yes	S	R	As in the other cases ice relieved dyspnea, pain in chest and restlessness.	" "
14	M	10	104.5	44	4	Yes	S	R	Ice gave instant relief to pain in chest.	" "
15	M	58	105.5	40	4	Yes	D	R		" "
16	M	11	105	40	2	Yes	S	R	Discharged on sixth day.	" "
17	M	30	105.2	44	3	Yes	S	R	An alcoholic. Expectoration bloody at first.	" "
18	F	65	105.5	40	3	Yes	S	R	Reporter applied ice in a bag, mixed with saw-dust and covered with oiled silk.	" "
19	M	6	104	.....	.....	Yes	S	R	Pneumonia following measles.	A. H. Lindorne, Atlanta, Ga.
20	M	32	105	35	7	Yes	D	R	Case of alcoholic pneumonia with wild delirium tremens for three days and nights, which made it necessary to strap his four extremities to the four corners of the cot. The marked cyanosis was relieved by oxygen. Internally gave strychnin and capsicum in large doses.	Thomas J. Mays, Philadelphia.
21	M	35	103.5	32	8	Yes	S	R	A severe case.	Wm. A. Kimmil, Chicago.
22	M	14	104	.....	.....	Yes	S	R	Cloths, wrung out of ice water, applied to chest.	Geo. F. Dunham, Wenona, Ill.
23	F	2½	104	60	5	Yes	D	R	Had trouble in inducing family to use ice at first, but it acted "marvelously" when it was applied in this case.	Ira Haynes, Nashville, Tenn.
24	M	12	.....	.....	.....	.....	S	R	Asthenic case. Objections to the use of ice by family. These were overcome.	" "
25	F	10	.....	.....	5	No	S	R	Sister of last case. Same objections to ice. Cold reduced temperature in a short time.	" "
26	M	23	105	36	5	Yes	S	R	Treatment very satisfactory. Patient had pneumonia three years before, which lasted for two weeks.	" "
27	M	2½	103	.....	5	No	S	R	This case was a brother to the following one.	" "
28	F	5	103	60	6	Yes	S	R	Reporter says ice treatment is as good for children as for adults.	" "
29	F	2¼	105	80	6	Yes	S	R	Case with "most unfavorable prognosis." Ice was not applied until the fourth day, and then as a last resort, and reporter believes "it saved the child's life."	G. H. Franklin, Hightstown, N. J.
30	F	10 mos.	104	.....	.....	.....	...	R	Patient became progressively worse under hot poultice treatment. Ice was substituted and temperature fell from 104° to 102°.	Charles Rea, York, Pa.
31	F	76	.....	.....	.....	.....	...	D	Pneumonia complicated with influenza. Dr. Rea reports FOUR other cases (not tabulated) treated with cold, the ages of three of which were below eight, and one sixty years, of which he has no record in detail, but with recovery in all. Two of these were seriously complicated with pertussis. In conclusion he says that these cases "might have gotten well without the cold treatment, yet, apparently, I got better results *and my patients were more comfortable* than when I used other forms of treatment."	" "
32	M	4	105	60	6	Yes	S	R	Applications of cold to chest reduced the temperature and respiration-frequency immediately.	Anna M. Stuart, Elmira, N. Y.
33	F	14	106.2	40	5	Yes	S	R	Also pleural effusion. Aspiration.	H. G. McCormick, Williamsport, Pa.
34	F	58	103.5	36	3	Yes	S	R	Ice was applied when fever was highest, and the temperature fell at once and gradually came to a normal point.	" "
35	F	24	103.1	40	9	No	D	R	Case in a delicate girl. Ice gave decided comfort. In reporter's opinion recovery is due to the cold application.	J. H. Wilson and H. S. McConnel, New Brighton, Pa.
36	M	56	.....	.....	.....	No	D	R	Reporter says: "I most thoroughly believe in this form of treatment."	Theoda Wilkins, Pomona, Cal.

Number.	Sex.	Age.	Highest temperature.	Highest No. of respirations.	No. of days from rigor to crisis or to subsidence of fever.	Delirium.	Single or double.	Recovery or death.	REMARKS.	Names and addresses of Reporters.
37	M	24	104.3	36	6	Yes	S	R	Ice was applied every four hours, and allowed to remain half an hour.	Charles A. Currie, Philadelphia.
38	F	38	102.5	.....	.....	.....	...	R	Acute pulmonary congestion. In bed two days. Pain, pyrexia and dyspnea were promptly relieved.	Arthur Dedoe, Seattle, Wash.
39	M	69	102.5	.....	.....	.....	S	R	Acute congestion right apex. Complication of serious aortic incompetency. Cold was substituted for hot poultices, which gave no relief. Patient was out in three days.	" "
40	M	6	104	.....	.....	.....	S	R	Reporter's son. Cold gave prompt relief.	" "
41	M	15	104.4	.....	6	No	S	R	In hospital nine days. Good recovery.	J. C. Knipe, Jewish Hospital, Phila.
42	M	28	105.2	40	.....	Yes	S	D	Was in poor health with previous cough. Died on sixth day.	" "
43	M	38	102	.....	5	No	S	R	In hospital seven days.	" "
44	M	20	104.6	.....	4	No	S	R	In hospital eight days. Good recovery.	" "
45	M	20	104.8	.....	5	Yes	S	R		" "
46	M	33	103	32	7	Yes	S	R		" "
47	M	27	104.2	32	.....	Yes	S	R		" "
48	F	17	104.2	45	.....	Yes	S	R	Very grave case. Was poulticed with hot applications for five days after the chill, but without influence on fever, delirium or restlessness. After this period ice was applied and the gravity of all the bad symptoms was markedly and almost immediately abated.	David F. Monash, Des Moines, Ia.
49	M	23	103.4	40	5	No	S	R	Cold gave relief to pain, dyspnea and restlessness.	" "
50	M	34	104.4	38	5	No	S	R	On account of friends' objection ice was not applied until third day. Benefit apparent at once. Patient addicted to alcohol and opium. Dr. Monash adds: "I strongly urged the use of cold in two other cases in another family, but neither the friends nor the attending physician would agree to it. One died, and the other recovered from the acute process, but merged into tuberculosis."	" "
51	M	60	103.8	40	6	Yes	S	R	Patient himself recognized the comfort derived from ice-bag. "I consider the use of ice in acute pneumonia of as great value as antitoxin is in diphtheria."	W. J. Fletcroft, Paterson, N. J.
52	F	36	104	40	7	No	S	R		" "
53	M	16	104	40	5	No	S	R	This patient, although he made a good recovery, had another attack of pneumonia three months later. (See next case.)	" "
54	M	16	105.4	40	7	No	S	R	Until the fever had risen to 105° on the fifth day the patient was treated with hot poultices. After this ice was applied and the fever dropped at once.	" "
55	M	25	104.4	40	4	Yes	S	R	Ice was applied on the fourth day and in twelve hours crisis occurred. Patient had insomnia from time of chill until ice was applied. In his delirium he jumped out of second-story window. Recovery was slow.	" "
56	F	36	.....	.....	.....	Yes	S	R	Patient was not seen until four days after chill, when ice was applied. Good recovery.	Geo. S. Stone, New Freedom, Pa
57	M	10	.....	.....	.....	No	S	R		" "
58	F	18 mos.	.....	.....	.....	No	S	R	The last three cases were mother and two children, the attack in the first beginning on March 8, and that in the children on March 10, 1896. The two ended in crisis and the first in lysis.	" "
59	M	78	.....	.....	2	No	S	R	Pneumonia ran its course in forty-eight hours.	" "
60	M	22	.....	.....	.....	No	S	R	Patient improved from time ice was applied.	" "
61	M	40	.....	.....	.....	Yes	S	D	Patient addicted to alcoholic excess. In an intoxicated state, he lay a whole night on the frozen ground. Unconscious most of the time.	" "
62	M	20	.....	.....	4	No	S	R	Ice gave immediate relief.	" "
63	M	40	104	.....	.....	Yes	S	R	Patient alcoholic. Expectorated much blood.	" "
64	M	20	104.5	.....	.....	Yes	S	R		" "
65	F	38	105.5	.....	.....	Yes	D	R	Whole chest enveloped in ice. Patient begged for ice when it was removed. "Am confident the ice saved her life."	" "
66	M	8	106	.....	9	Yes	S	R	Temperature fell directly after ice was applied.	C. B. Bastian, Salladasburg, Pa.
67	M	6 mos.	106	.....	.....	.....	S	R	Pneumonia complicated with convulsions.	" "
68	M	12	104	.....	.....	Yes	S	R		" "
69	F	6	.....	.....	.....	Yes	S	R	Reporter believes ice limited the extent of inflammation.	" "
70	M	20	104	.....	.....	Yes	S	R	Reporter gave case up as hopeless. Made a slow recovery.	" "
71	M	10	105	.....	.....	Yes	S	R	Pain so severe that opiates were required.	" "
72	M	8	.....	.....	.....	No	S	R		" "
73	M	46	103	.....	.....	Yes	D	R	Different areas were successively invaded. In bed three weeks.	" "
74	M	10	104	.....	.....	Yes	S	R	"Ice always lowered the temperature."	" "
75	F	70	103	.....	.....	Yes	S	R	"Think ice saved this patient."	" "
76	F	6½	105	44	.....	No	S	R	Reporter states that he is a firm believer in the efficacy of the ice-treatment of pneumonia: and adds, "I regret very much that, owing to loss of my notes, I am unable to give the history of HALF A DOZEN other desperate cases (not tabulated) treated in the same way, all of which, except one, I think owe their lives to the cold treatment."	J. R. Care, Worcester, Pa.
77	F	27	104	36	.....	Yes	S	R		" "
78	M	16	105	36	.....	Yes	S	R		" "

Number.	Sex.	Age.	Highest temperature.	Highest No. of respirations.	No. of days from rigor to crisis or to subsidence of fever.	Delirium.	Single or double.	Recovery or death.	REMARKS.	Names and addresses of Reporters.
79	M	28	103.5	28	3	No	S	R	This case began with great dyspnea and pain in the right lung. The ice relieved these symptoms.	B. F. Kieruliff, Marshalltown, Ia.
80	M	9	105	30	3	Yes	D	R	Ice was also used internally with great benefit.	" "
81	F	40	104.2	50	8	Yes	D	R	This was a critical case of pneumonia in which an unfavorable prognosis had been given by the attending and consulting physicians; and while passing through the attack the patient gave birth to an eight-months' fetus. Her delirium was violent, sometimes alternating with muttering and subsultus tendinum, but after the ice application, all these grave symptoms gradually subsided. The ice was used as "a forlorn hope."	A. H. Boyer, Philadelphia.
82	M	50	105	50	10	Yes	S	R	This was a very aggravated case and had been abandoned by another physician. Reporter thinks the ice and strychnin saved him.	A. Chas. Dogge, Helena, Mont.
83	M	38	105.5	60	5	Yes	D	R	A very unfavorable case, suffering with chronic articular rheumatism and endocarditis.	" "
84	M	13	104	50	9	Yes	S	R	Dyspnea great; face cyanosed, but so soon as ice was applied improvement occurred.	" "
85	M	21	104	.....	.....	Yes	D	R	Ice of great benefit here.	" "
86	F	35	104	40	.....	Yes	S	R	Ice aggravated dyspnea, pain and restlessness. These symptoms were relieved by the administration of small doses of hydrogen dioxid.	" "
87	F	26	.....	.....	.....	Yes	S	R	Followed an attack of typhoid fever.	" "
88	M	46	103.5	.....	.....	Yes	S	R	At first objected to ice, but finally consented to its use. Result very good.	" "
89	M	40	105.5	50	.....	Yes	S	R		" "
90	M	20	104	45	.....	Yes	D	R		" "
91	M	35	.....	.....	.....	Yes	S	R	At the same time these cases were treated, reporter had another case of pneumonia in which, because he was not permitted to apply ice, he used hot poultices, and the patient died.	" "
92	F	25	105	.....	.....	Yes	D	R		" "
93	M	30	105	40	.....	Yes	S	R		" "
94	F	47	102	48	7	.....	S	R	Marked orthopnea and cyanosis. Twenty-four hours after ice was applied, the cyanosis had almost entirely disappeared and the patient was able to lie down and sleep; her respirations had fallen from 48 to 24, and her pulse-frequency from 110 to 90.	Charles A. Currie, Philadelphia

Sex.—The sex is noted in ninety-four cases, of which sixty-three are males and thirty-one are females.

Age.—The age is also given in ninety-four cases. The number occurring in each decade is as follows: Under one year, 1; between one and ten years, 22; between ten and twenty, 16; between twenty and thirty, 20; between thirty and forty, 16; between forty and fifty, 7; between fifty and sixty, 4; between sixty and seventy, 3; between seventy and seventy-five, 2; between seventy-five and eighty, 2.

Highest temperature-range.—This is given in seventy-six cases as follows: In two, 102°; in two, 102.5°; in six, 103° and 103.5° respectively; in twenty-four, 104°; in seven, 104.5°; in seventeen, 105°; in nine, 105.5°; in three, 106°.

Highest respiratory frequency.—This is noted in forty-seven cases. In one it was 28; in two, 30; in four, 32; in one, 35; in six, 36; in one, 38; in sixteen, 40; in three, 44; in one each 45, 52, and 80; in three, 60; in two, 48; and in four, 50.

Days of crisis or subsidence of fever.—This is noted in fifty-two cases. In four this occurred at the end of the second day; in seven, at the end of the third day; in seven, on the fourth day; in thirteen, on the fifth day; in seven, on the sixth day; in five, on the seventh day; in four, on the eighth day; in four, on the ninth; and in one on the tenth day.

Number of cases of single and double pneumonia.—There were seventy-six cases of single and fifteen of double pneumonia.

The mortality.—Out of the one hundred and four cases, three died—giving a mortality rate of 2.88 per cent. The ages of those who died were 28, 40, and 76 years respectively. Out of the total number of 299 cases so far collected there were ten deaths—giving a total death-rate of 3.35 per cent.

FEVER AND ACUTE PNEUMONIA IN THEIR RELATION TO COLD EXTERNALLY APPLIED.

As fever is such an important feature of pneumonia, and as I believe that a correct interpretation of the patho-

logic relationship between the two is indispensable in order to formulate principles for the correct treatment of both, I desire to take advantage of this opportunity to briefly discuss the general nature and pathology of fever, and afterwards, in connection with other neighboring lesions, to consider its special bearing on pneumonia from the therapeutic standpoint that is here advocated.

What then is the essential nature of fever? Does it make for health or for disease? Is it a process of evolution, or of dissolution? Does it build up or destroy? Is it an intrinsic evil, or is it a thing to be welcomed and encouraged within certain limitations in the hope that it will enable nature to fight and to overcome disease; or does it make the last state of the body worse than the first? The only rational answers that can be given to these questions are to be obtained through a study of the production of the normal temperature of the body, and this leads to the following questions: Where and how is the normal heat of the body produced and maintained? Where is the fire, and on what does the fire feed? Physiology teaches that the heat of the body is almost exclusively produced through oxidation, and that four-fifths of this amount comes from oxidation occurring in the muscles. In other words the muscles contain something that on being oxidized furnishes nearly all the heat of the body; or, a part of the body is burnt up for the purpose of supplying its own temperature.

Now, while heat is being thus generated there is at the same time another process in active operation, viz., that of heat-loss, or heat-dissipation. This serves as a heat-leveler and tends to limit heat-accumulation in the body. From an estimation of these two factors it is evident that the degree of temperature present in the body at any moment is dependent on how much is produced and how much is lost at that time; or, in other words, the degree of body-temperature at any time is the balance between heat-production and heat-dissipation. We are told that in the early days of railroad-engineering it was impossible to operate a locomotive in rainy weather on account of the cooling effect that the rain had on the steam-boiler. Dissipation of heat became too active here, and the locomotive was disabled in consequence. It is evident, therefore, that in order to preserve the function of the machinery in the human body or in the locomotive, neither heat-production nor heat-loss must go on without restraint; and that both must be adjusted in such a manner that no more heat is produced or lost than is necessary to carry out this purpose. This is exactly the case in health, for here the temperature is almost absolutely constant and uniform because it is under the control of a specialized nervous apparatus known as the thermotaxic mechanism, which regulates both heat-production and heat-dissipation. When the function of this mechanism becomes deranged, or is overthrown, either heat-production or heat-dissipation, or both, become disordered, and fever, or hyperpyrexia, or in some instances a subnormal temperature may supervene.

The history of the locomotive furnishes an appropriate prototype of the development of this thermotaxic apparatus. In the crude way in which the former was at first constructed no provision was made for preserving a normal relationship between heat-production and heat-loss; but by degrees this difficulty in construction was overcome, and in the machinery of the present locomotive there is established such an adjustment between heat-production and heat-loss that it may be operated under conditions that formerly made this impossible. In the lower forms of life, as in the case of molluscs and reptiles, the thermotaxic mechanism is but poorly developed, and the animal's temperature, like that of the early locomotive, is at the mercy of the surrounding temperature. The temperature of a warm-blooded animal poisoned with curare, like that of the cold-blooded animal, corresponds in rise and fall with the temperature exterior to the body—the influence of the thermotaxic mechanism is entirely incompetent to regulate the bodily temperature, because curare paralyzes the peripheral nerves. In the first days of extra-uterine life the temperature is subject to wide variations—showing that at this period of life the thermotaxic mechanism is excessively unstable. Thus it is plainly seen

that the development of the function of heat-coördination in animal life runs in a line parallel to that of the perfection of the steam locomotive. In the primitive history of both, heat-control is unsteady and defective, while in their higher stages of evolution this function has attained a great degree of stability and perfection.

It has already been stated that the nature of the thermotaxic mechanism is nervous and it is of interest to know that its anatomic seat is pretty clearly defined. According to Ott, Aronsohn and Sachs, Eulenberg, and Landois, there are six heat-regulating centers—two in the cortex, and four at the base of the brain. These experimenters have also shown that electric or mechanical irritation of these centers produces a rise of temperature lasting for hours at a time.

From all that has been said it is quite evident that Finkler is correct in describing *fever as a neurosis*, or more specifically, fever is due to disturbance of the thermotaxic mechanism and can in no sense be looked upon as a healthy reaction of the organism against the cause of disease. One might as well view the bending, the twisting, the creeking and the crackling of forest trees in a tornado as evidence of a normal reaction against the fury of the storm. In one sense it is a reaction of those that survive, but more correctly it is a contest that shakes and shatters and threatens the life of every tree that is attacked, and in which those that fail to possess the requisite resistance go down, while those that weather through it, perhaps, never fully recover from its effects.

Fever is always evidence that the function of heat-coördination is disorganized and has lost its power of restraining heat-production or heat-dissipation, or both, and is *per se* a morbid process. Fever may be compared to a heart whose beats run wild when certain cardiac nerves are irritated or disturbed. The heart, under these circumstances, does not beat with greater rapidity because there is greater resistance to be overcome in front, nor is its strength enhanced, but it behaves in this manner because the restraining influence of some important nerves is crippled. So, fever is a manifestation of depreciated nerve-integrity, and never serves the interests and purposes of health. Not only is fever an ordinary disease, but it has been shown by Vincent that the blood of animals that die from the effects of artificial fever contains a poison that causes convulsions, stupor and death, in guinea-pigs, sparrows and frogs.

From these brief considerations it is quite evident that fever is caused by disorder of the heat-centers—the principal ones of which are located at the base of the brain; and it is therefore of great interest to bear in mind the close anatomic relation of these centers to another important center which is located in the same region and which has a special affiliation with respiration. It is well known that a dog pants to cool himself off through the lungs, and that a fevered animal breathes rapidly in order to increase the rate of heat-discharge through the same channel. Richet, Ott, and other physiologists believe that the rapid breathing under these circumstances is due to the fact that fever-heat stimulates an independent nerve-center at the base of the brain which has the power of accelerating the respiration-rate, and which they call the thermo-polypneic center. Other observers hold that this phenemenon is brought about through the instrumentality of the respiratory center, which is stimulated to increased activity by the same cause, *viz.*, fever-heat. I believe that the evidence in favor of the existence of a special polypneic center is well made out; but whether it is or not, or whether the respiratory center, which is also located at the base of the brain, subserves the function of accelerated breathing during fever, it is clear enough that an increased respiration-frequency is always associated with acute pneumonia. So, too, there are also very good reasons for believing—reasons that I have discussed in my second collective report on acute pneumonia—that the process of pneumonia itself is in a great measure dependent on serious disturbance of the nervous system in which the respiratory nerves and center participate very largely, and hence the increased frequency of breathing in this disease may be due partly to central

and partly to reflex influences. Moreover, in close anatomic contact with the respiratory, the polypneic and the heat centers, is the convulsive center, and in this close companionship we have, perhaps, an explanation why almost all inflammatory diseases that implicate the base of the brain are attended with a frequent respiratory rate, high fever from the onset with little fluctuation, together with convulsions occurring with greater or lesser frequency. Pneumonia and cerebro-spinal-meningitis are prominent examples of such affections, especially when they occur in the infantile period of life. The reason why this combination of symptoms is developed more frequently in the young than in the old is because as age advances the various nerve-centers become less impressionable and more independent of each other, and hence are less easily thrown out of equilibrium by incidental disturbances. Then, beside the three kinds of centers already spoken of, the oblongata contains another one, *viz:* the cardiac center, which is invariably involved in pneumonia, and plays a very prominent *rôle* throughout the course of this disease.

In thus analyzing some of the important pathologic factors in the nervous mechanism of acute pneumonia the therapeutic indications in this disease are brought out very prominently. These resolve themselves into (1) an abatement of the local process in the lungs; (2) a reduction of fever, and (3) an alleviation of cerebral and general nervous irritation. Now, how are these extensive indications to be met? What is the remedy, or does it require more than one? After due consideration of all the clinical and experimental data so far as I know them, I believe that cold applied externally will meet these demands more satisfactorily than any other measure. Not only will it allay the morbid process in the lungs, but it possesses a direct ameliorating influence on those nerve-centers which, as we have seen, play a responsible part in the pathologic history of acute pneumonia.

EFFECTS OF COLD APPLICATIONS TO THE CHEST.

Cold, when applied to the chest, has a two-fold effect. First, it limits and checks the extension of the pneumonic process in the lungs and assists in bringing about resolution. This is borne out by the observation of any practitioner who has carefully watched the stoppage and the recession of this process as indicated by the modification of the physical signs. Secondly, through its action on the respiratory and the peripheral nerves of the thorax, cold has a profound sedative reflex effect on the heart, the respiratory and the polypneic centers—affecting these to almost the same degree as if it were brought in direct contact with them. Experiment confirms this by showing that when in an artificially fevered animal a piece of ice is applied directly to the polypneic and heat centers, as has been done by Ott, the respiration falls in frequency and the fever is promply reduced. Clinical experience demonstrates that this is precisely what happens when cold is applied to the chest in this disease. The respiration and pulse are reduced in frequency; the fever abates, sometimes falling several degrees in a very short time; the day of crisis is hastened, and if the attack is not aborted, its duration is materially shortened.

COLD APPLICATIONS TO THE HEAD.

Cold applied to the head acts directly on the brain and on the implicated centers at the base of the brain. Stress should be laid on the fact that such applications are always to be made in cases with high fever, great restlessness and general irritability, and we should, at the same time, remember that they are not out of place in less severe cases. They materially assist and reinforce the effects of the cold that is simultaneously applied to the chest.

METHOD OF APPLYING COLD.

The important practical questions that confront us are: How is cold to be applied and how long is it to be continued? In my practice it is employed in the form of pieces of ice placed in rubber ice-bags. Others use snow, either in rubber bags or wrapped up in towels; or apply towels wrung out of cold water. The bags may be wrapped in towels, and, after they are applied over the inflamed area, a broad, thin bandage may be placed around the chest in order to keep the bags in place. This is of

special importance when the patient is restless and tosses about the bed. If the disease is confined to the front base on one side,only one good-sized bag will be necessary; but if the exudation extends higher up, or on the side or on the back, then one or two more bags must be applied laterally and as far back as possible. If the affection is extensive, as many ice-bags as are necessary to cover the whole area must be put on. I have had as many as eight ice-bags on the chest at one time. If the morbid process migrates, as it frequently does, it should be followed up with the ice and covered.

The length of time for which cold is to be used must, in most cases, be largely determined by the amount of fever present. If the temperature falls to or near the normal point, and shows a tendency to remain there, then the ice may be gradually removed. It is best, however, not to be in too much haste in withdrawing the cold, for frequently, when this is done, the temperature soon flies up again suddenly, and under these circumstances it seems to be more difficult to bring the temperature down than it was the first time. Sometimes, too, the temperature rises suddenly after the ice has been taken off, not because the disease has become active again in the old area, but because it has extended to a contiguous field of lung-tissue. It must be borne in mind, however, that the ice is not employed solely for the purpose of reducing fever, but also with the object of circumventing the exudative process and of hastening resolution. There may be very little fever present in some cases of pneumonia, yet the destructive changes are going on in the lungs at a rapid rate. Hence in senile, latent, or alcoholic pneumonia the activity with which the ice is employed must be governed by the impression that is made on the pulmonary disintegration.

Fever in pneumonia must, therefore, be regarded as an entity of powerful import, and one that demands special treatment. It is true that fever is not as simple and as gross a phenomenon as that which obtains in the local lung-lesion; yet it must be remembered that the latter is not the fundamental lesion from which the patient is suffering, but is merely the manifestation of some deeper or less apparent disorder. Just as pain, which is evidence of an irritated sensory nerve-center, is amenable to the influence of morphin, so is fever, which is the open and visible sign of some profound perturbation of those centers which coördinate bodily temperature, also to be abated and alleviated by the local application of cold.

A Quiet Wedding.

"Did you attend the Bircher-Jacklong wedding out at Billy-bee Dam last night, Ike?" asked the able editor of the Hawville *Clarion*.

"Aw, yes!" answered Alkali Ike, wearily; "I was thar."

"Of course there was a lively time, and all that?"

"Accordin' to how you looked at it. *I* called it mighty slow. Outside of the regular routine and the eatin', nuthin' happened worth mentionin'. To be sure, the preacher and the groom got into a row because the divine wanted his pay in advance; but that is a common occurrence. The Rev. Mr. Harps is too old a bird to take any chances. Of course Jack Howcome, the fiddler, had had too much, as usual, and this time he fell off from the table and broke his bow arm; Jack always was more trouble than he was worth. The bride's mother, who didn't like the groom anyhow, jumped on to the poor feller's neck jest before the ceremony with a rollin'-pin, and it took half a dozen of us ten minutes' hard work to tie the old lady fast in a rockin'-chair and carry her a few hundred yards out on the prairie. Durin' the rumpus somebody stole the feed, and we never saw hide nor hair of it all the rest of the evenin'. They accused me of it, but I was as innercent as a lamb. I hain't that kind of a man; and besides, I had a private snack of my own. That was every blamed thing that happened, except that a deputy sheriff slid in an arrested Coyote Pete for horse-stealin' or a little suthin' that a-way, and some feller had a fit. Shucks! Weddin's hain't noways what they used to be a few years ago. Lord! Them was the times! But now everything is gittin' to be too much like it is in the East."—From the "Editor's Drawer," in *Harper's Magazine*.

A CASE OF CEREBRO-SPINAL SYPHILIS.

AUGUSTUS A. ESHNER, M.D.,* PHILADELPHIA.

E. McG., a well-digger, thirty-five years old, was referred by Dr. W. Campbell Posey from the Eye Department to the Department of Nervous and Mental Diseases at Howard Hospital, with the report that both visual fields were restricted, in conjunction with hemianopsia of the nasal halves, greater on the right side. The discs were atrophic, the walls of the retinal vessels thickened, the superior temporal artery being reduced to the size of a mere thread. The retina was thickened and hazy and there were evidences of an old chorio-retinitis. The pupils were unequal and sluggish.

The patient complained of impairment of vision with the right eye, which had been noticed for four or five months and had been gradual in onset and invasion and progressive in course. There had been subjectively no difficulty with the left eye.

On inquiry the patient related that he had had a paralytic stroke nearly a year before, which occurred while he was at work. The right upper extremity became powerless and during the night the left lower extremity was affected similarly. Speech was at the time interfered with and consciousness was lost for two days. There was no convulsion, but the sphincters failed to act normally for six or eight days. Subsequently the patient improved, but he never recovered entirely. In the course of five or six weeks, after immoderate indulgence in alcohol, left-sided weakness set in, without loss of consciousness. The sphincters now remained active and the patient soon went about as usual.

On examination the gait was found to be decrepit and station unsteady. The knee-jerks were exaggerated and feeble ankle-clonus could be elicited on the right. The right pupil was larger than the left and eccentric. Both reacted to light. On extending the fingers of the right hand the second phalanges of the index and ring fingers were over-extended, but this condition, the patient stated, had existed from birth. There was no gross impairment of sensibility; no headache; no diplopia; no difficulty in micturition. Sleep was not disturbed. Vertigo was present at times. The patient admitted having had two venereal sores on the penis seven years previously and subsequently two sores on the left leg. Three children were healthy and there was no history of miscarriage. One child died a day after birth.

Upon treatment with potassium iodid in saturated solution, rapidly increased in dose to fifty drops three times a day, progressive improvement took place.

This case does not require extended comment. It bears the unmistakable stamp of syphilis of the nervous system. Apart from the history of venereal infection and improvement upon treatment with iodids, the wide and irregular distribution of the symptoms, without definite interrelation, must be referred to a group of lesions, such as for practical purposes only syphilis causes. Of course, other disorders of multiple seat, as for instance neoplasms or tuberculosis, may give rise to similar manifestations, but there are usually other symptoms that make clear the real nature of the case. For the privilege of reporting this case I am indebted to Dr. Lewis Brinton, in whose clinical service I had the opportunity of observing it.

*Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, etc.

Dilettante (very pressing)—I should like so much to write for your newspaper. One side of the paper has to be blank, hasn't it?

Editor—No; both!—*Fliegende Blatter.*

He—Who is that man over there?

She—Professor Smart, the great mind reader.

He—Ah, I suppose he mingles with society when he wants to have a rest.—*N. Y. Herald.*

PURULENT PERITONITIS WITH STRICTURE OF THE RECTUM.*

HENRY J. WALCOTT, JR., M.D.,† PHILADELPHIA.

Annie S——, thirty-eight years old, married, house-wife, was admitted to the ward November 4, 1896, with the following history:

Family history negative, had ordinary diseases of childhood, enjoyed good health up to the age of twenty-three when she contracted syphilis. From that time up to the date of admission her health has been poor, her principal trouble being obstinate constipation. This began twelve years ago and has become progressively worse. Five years ago she passed large amounts of pus and blood by the bowel from time to time until one year ago last July when, as she expressed it, "some sort of an operation was done" at one of the hospitals in this city. This operation, whatever it was, gave some relief, but gradually the constipation became more and more marked, the patient going at times so long as two weeks without a movement. She was unable to take an enema as it caused great pain, and medicine had to be taken in large and increasing quantity by the mouth to secure a bowel movement.

The present attack dates from 4 a.m. on the day of admission. While nursing a sick child of a neighbor she suddenly complained of great pain in the right iliac region, of vertigo and faintness. Her bowels not having moved for four days, the pain was attributed to that fact. The pain becoming more severe a physician was called in and he promptly had her removed to the hospital in the ambulance.

On admission (4 p.m., November 4,) her temperature was 101°, pulse 138, respirations 16. She complained of severe pain, especially upon the right side. Her abdomen was somewhat distended, rigid, very tender on pressure and her expression was one of anxiety and fear. Her condition becoming worse, despite all measures used to relieve her, I sent for Dr. Montgomery and at nine o'clock in the evening the patient was given ethyl bromid and an examination made per rectum.

About four inches from the anus a stricture was encountered, which narrowed the calibre of the rectum to such an extent as to hardly permit the introduction of a small finger. A large mass of hardened fecal matter lay above this. The stricture was dilated by means of the fingers and a dose of castor oil (f℥iss), given in the hope of softening the fecal mass, but without success. A large enema was also carefully given but was not retained. The temperature at midnight was 100°, pulse 136°, respirations 36. The pain became so severe that a hypodermatic injection of a quarter of a grain of morphia sulphate was given into the wall of the abdomen. This relieved the pain to a great extent. Ice-bags were applied and one-twentieth grain of strychnia sulphate was given hypodermatically every three hours.

Soon after admission the patient began to vomit, the vomited matter consisting of a dark brown liquid without fecal odor. The usual measures failing to check the emesis, lavage was performed, boracic acid solution to the amount of two quarts being used. This had the immediate effect of stopping the vomiting and the patient became proportionately more comfortable.

At 4 a.m., November 5, her temperature was 101⅘°, pulse 140, respirations 32. At twelve o'clock noon the temperature was 101⅘°, pulse 170, respirations 36. During this time we had been unable to empty the bowel by means of magnesia sulphate, magnesia citrate, castor oil, enemas, etc. The patient became weaker and weaker, and, in spite of all measures instituted for her relief, died twenty-four hours after admission. Her condition from the time of admission to the time of her death was such that all operative measures were deemed inadvisable and the wisdom of such a decision was borne out by the autopsy.

Urinary analysis.—Amber. Acid. Sp. Gr., 1,026. No sugar. Trace of albumin,

* Service of Dr. E. E. Montgomery.

† Resident-Surgeon St. Joseph's Hospital.

epithelial, granular and tube casts, urates and mucus.

Post mortem.—Upon opening the abdominal cavity, a stream of thick, greenish, foul-smelling pus flowed out. It was not possible to measure it, but certainly there was not less than a quart. Numerous adhesions were present. The thoracic cavity contained a small amount of bloody fluid. The right lung was adherent throughout its entire extent, the left lung slightly adherent. The pericardium was also adherent. Most of these adhesions were of long standing but those in the abdomen were of more recent formation. The pericardium was thickened and contained an excess of fluid. Heart, normal in size and consistency. The right ventricle contained a large "currant jelly" clot. The right auricle and left ventricle were empty, and the left auricle contained a small amount of blood. The valves were normal.

The lungs were normal in size, but the right was congested, left being normal. Spleen slightly enlarged. Kidneys, those of a chronic parenchymatous nephritis. Ureters normal; bladder wall much thickened. Uterus normal, cyst of tube on left side about the size of a hen's egg; right ovary and tube normal. The stomach was slightly dilated and contained a portion of solution used for lavage; mucous membrane congested. The gall duct was obstructed; liver normal in size and color, adherent to diaphragm for its entire extent. The gall bladder was distended, projecting one-half inch beyond margin of liver and contained blood.

The small intestine was normal in size but in the ileum there were evidences of old ulcerations. These were three in number and consisted of little cup-like depressions each of which contained a fecal concretion. The large intestine was contracted throughout its entire length, but the most marked contraction was in the eighteen inches of the gut nearest the anus. This portion was so contracted that the introduction of the little finger (a trifle larger than a lead pencil) was impossible. Appendix vermiformis, normal. No examination of the brain was made.

The autopsy showed that operation would undoubtedly have proved futile, for, had it been possible to check the violent peritonitis already set up, the chances for a good result in intestinal resection would have been comparatively *nil*, owing to the large extent of gut involved.

HAY ASTHMA.*

J. NEWTON HUNSBERGER, M.D., SKIPPACK, PA.

The definitions of this disease are to a certain extent unsatisfactory. Some writers describe it as a form of catarrh; while Osler defines it as an affection of the upper air passages, often associated with asthmatic attacks, due to the action of certain stimuli upon a hypersensitive mucous membrane. It is evident that the neurosis may be brought on by a number of irritating substances. I say a number, for at various times between seventy-five and one hundred different substances have been supposed to be the cause of hay fever. Of course among such a great number it is hard to say just which irritant is the cause of the trouble. Our friends interested in bacteria must have overlooked this interesting affection or they would surely have given us, from their overstocked laboratories, a few little innocent microörganisms on which to fasten the blame. After irritants, seasons and heat are also exciting causes.

It is true that attacks may come on in certain individuals at any time during the year, yet the greater number are liable to attacks between the months of May and September. We may have two forms—"rose cold" in May and June, and "hay fever" in August and September and until frost. Of course the heat of the summer months and the

* Read before the Montgomery County Medical Society.

presence of irritants in the air, as inorganic dust of all kinds and the pollen of plant life, all assist in precipitating attacks of the neurosis. Overwork, worry and the resulting indigestion, or, in fact, anything which tends to lower nervous tones may almost be considered exciting causes, while they surely predispose to attacks. It is not so much too much heat and sunlight as the depressing effects which follow, that predisposes some individuals to this annoying affection.

Locality certainly is a factor, but I do not believe it can be classed as an exciting cause. I believe that the views held by some writers will be greatly modified when the subject of locality is more thoroughly studied, with hay fever considered, not as a true pathologic condition, but as a neurosis.

Hay fever is a neurosis pure and simple. Of course any chronic nasal catarrh or a pathologic change or growth in the air passages would tend to aggravate the condition. In a case under my care I removed a polypoid growth from the nares with an immediate amelioration of the symptoms, but with no further effect on the course of the disease.

It is hard to say whether the nerve filaments of the nasal passages are affected, or whether the centers directly or indirectly controlling these filaments are the cause of the disease. But I believe the sympathetic system has a great deal to do with the trouble. There is great vaso-motor disturbance, general as well as local. The slight chilliness, mild febrile condition, depression, flashes of heat, together with a disturbance of the organs of indigestion, all point to a change in vaso-motor balance. The local symptoms are so well known as not to need repeating, but are not truly an inflammatory condition, but simply a vaso-motor dilatation of the capillaries of the air passages.

To prove this we might point to its freedom from true pathologic conditions, its dependence on external irritants, to which a vastly greater number of persons are exposed than are affected; its close connection with allied nervous conditions, as false croup, certain forms of asthma, etc.; its annual periodicity, the subjects being perfectly well and strong, and showing no unusual susceptibility to ordinary colds in the intervals; the sameness of the symptoms in different individuals, while there is the greatest difference in the special exciting causes; and the rapid and complete cure effected by a change of locality, often even if this change is but a matter of a few miles.

MacKenzie reports a case of "rose cold" brought on by the odor (?) of an artificial rose. And the mere fact that there is in existence a United States Hay Fever Association, to which only those who can afford an attack of hay fever are eligible to membership, shows that the pleasures of the cure counterbalance some of the annoying symptoms.

To prove further the non-inflammatory character of the disease I will cite a case reported by Dr. Geddings: "While residing at Bethlehem, N. H., I was called one evening to see a German who had just arrived on the train from Fall River. His condition was most pitiable; his eyes were fiery red, the nose and face were terribly swollen, while the water streamed from both eyes and nose. The asthma was at its height, and his struggles for breath were fearful in the extreme. I injected a quarter of a grain of morphine into his arm and left him for the night. The next morning, while preparing to pay him an early visit, the patient himself appeared at my office, bright and cheerful, and so much changed that I at first failed to recognize him. A single night had served to dissipate all traces of his hay fever."

Some years ago a girl about thirteen years old came to my office with a periodic attack of hay fever. I prescribed for her, and heard nothing from her for several weeks, when I was informed my prescription did her no good but that Dr. Blank had cured her with one bottle of medicine. I inquired of the doctor what the wonderful remedy was and was informed that paupris and nitre effected the cure. She has had two attacks since then but the paupris and nitre have not cured them, neither has any other drug.

The treatment is simple to non-members of the Hay Fever Association. A little bromide and three to six weeks' time always effects a perfect cure.

COMMUNICATIONS.

ANTI-DIPHTHERITIC AND ANTI-STREPTOCOCCIC SERUMS—THEIR NATURE, METHOD OF PRODUCTION, AND APPLICATION FOR THE RELIEF OF DISEASE.*

C. C. FITE, M.D., NEW YORK.

Those of us who received our medical education long enough ago to be fond of retrospection will recall the ready acceptance which was given to the germ theory of disease, by the younger and more plastic minds in the scientific world when it was promulgated. We can also recall the doubt and ridicule that was heaped on the promoters of this theory by the over-wise and the ultra-conservative element.

It was my good fortune to witness Lister operate, and I noticed how his spray and apparatus excited the ridicule of some of those over-wise men who stood near; men who, by the way, have been forgotten, whilst Lister's name will live forever. Listerism, Pasteurism, antisepsis, asepsis, whatever name we may give to the methods then or since used, mean, after all, the same thing, fighting noxious germs, killing the microbe that is, either by its own destructive action or through poisonous secretions, destroying humanity. All we have attained to-day in serum therapy comes legitimately from the establishment of the germ theory of disease.

This paper will be limited to the question of the proper method of producing and using substances to either kill or neutralize the effect of disease germs. The anti-diphtheritic serum has been accepted as a part of our legitimate and definite list of remedial agents. The anti-streptococcic serum is still on trial.

The theory of the nature of anti-diphtheritic serum is a simple one. The diphtheritic germ, the Klebs-Loeffler bacillus, finds lodgement in the throat or elsewhere. It begins to grow and multiply, a membrane is formed, a poison is secreted and absorbed. This toxin overwhelms the life centers. Paralysis and death may follow. Nature has in the meantime been endeavoring to overcome the danger that is threatening the patient, and has secreted an antitoxin to destroy the toxin.

Nature gives the germ a life, but when the balance is apt to be against the culture field, the body, endeavors to neutralize the danger in her own mysterious way. This process was repeated millions of times for thousands of years, but we did not understand it, did not go deep enough. Finally the educational results of the germ theory had produced a long list of careful thinkers, and with the microscope, and by the aid of vivisection on animals, the secret was discovered, and now, all over the civilized world, are laboratories for the production of the fluid.

The method of manufacturing anti-diphtheritic serum is in brief as follows: First a culture medium is prepared by adding bouillon to blood serum, and then coagulating the mixture; this is known as Loeffler's blood serum. The diphtheria germs are secured by passing a sterile swab over the false membrane and the swab is then passed over the blood serum and the tube containing the now infected serum is closed with a cotton plug, and put into an incubator where it can be kept at the body temperature. After a few hours small colonies appear on the surface of the serum and the microscope is used to determine if the Klebs-Loeffler bacillus is present, and if so, if it is free from other forms of life. If it is a pure culture, small colonies are picked out and transferred to fresh serum and replaced in the incubator.

*Read before the Lycoming County Medical Society, Williamsport, Pa., December 1, 1896.

These growing germs are the seed used for producing the toxin; they are planted in sterilized beef bouillon. The germs then grow rapidly, and produce or secrete toxins which are retained in the bouillon. A small amount of a preservative is added and it is then filtered through unglazed porcelain, which removes the germs and all foreign bodies, leaving the solution clear. This solution of toxin is then injected into the jugular vein of a horse.

The horse's blood now contains an antitoxin which destroys the toxin we have been putting in it. The dose is repeated until, in the course of a few months, a horse can stand without injury a dose several hundred times stronger than one that would have killed him at the beginning of the treatment. The horse is then our laboratory, but Nature has yet kept her secret as to how the antitoxin is produced. All we have to do now is to secure the blood, remove the clot, filter, sterilize and preserve the serum, and we have the result, a package of anti-diphtheritic serum, and we are ready to go on our life-saving errand.

I have purposely avoided any reference to the various methods and tests applied on guinea pigs and with the microscope to determine the strength of the toxins and antitoxins from time to time. The methods have been carefully worked out by those engaged actively in the work, and in this way they have been enabled to establish a fixed standard just as definitely as we could weigh any given drug with the scales. The method now generally in use is to make a given number of antitoxin units a dose, irrespective of the bulk.

It is of the utmost importance that the serum should be so highly concentrated as possible, hermetically sealed, and only one dose in a package, and it should not be opened until ready to use it. By being careful about this, and using a clean syringe, avoiding the large old-style antitoxin syringe with the rubber tube, the physician can be confident that no harm will come from its use. My opportunities for observing the use of anti-diphtheritic serum and for conferring with eminent authorities as to its use have been quite extensive, and I have reached the conclusion above given and also that it is of the utmost importance to use the serum as early as possible and in full and repeated doses. I think it is legitimate to add that the majority of those who have not been successful in their use of antitoxin have either not used it in sufficient quantity or early enough. Dr. W. A. Walker (*Pediatrics*, October 15, 1896), places great stress on this point, as also does Dr. Douglas H. Stewart (*Annals of Gynecology and Pediatrics*, November, 1896).

Allow me to make a brief digression here and refer to the value of using the microscope in making a diagnosis. Dr. William Osler kindly showed me a case of typhoid fever in his service at the Johns Hopkins Hospital which had a small patch of false membrane on the lower lip. Microscopical examination showed the Klebs-Loeffler bacilli in abundance. It is often doubtless true that the real nature of cases of this kind are overlooked, and they become the foci of infection, and the patch, even though small, may spread to other surfaces later on, after having been the means of infecting probably a number of people. Then we are sure to hear the cry raised about sporadic cases!

Do not neglect other methods of local and general treatment; sustain the patient's strength, keep the bowels open with calomel and keep the throat clean. The Loeffler solution is an admirable combination of antiseptics for local use.

Marmorek and others have used antistreptococcic serum in cases of diphtheria, showing the streptococcus as well as the Klebs-Loeffler bacillus, also in scarlet fever, puerperal fever, general septicemias, infective tonsillitis, erysipelas, and other diseases, whether due to, or complicated by, the appearance of the streptococcus pyogenes, and it seems as if it will prove of great value in other cases, perhaps in multiple abscess and in broncho-pneumonia, or in fact wherever the streptococcus is found. Dr. Henry Dwight Chapin has been giving some attention to its use in the two diseases last named.

In reference to its use in diphtheria, I am firmly convinced that it is indicated in all cases where the microscope shows the streptococcus and we almost invariably find it in cases which do not yield to the anti-diphtheritic serum and

where we see a zone of inflammatory action extending beyond the area occupied by the true diphtheritic membrane. Therefore, if a case does not yield promptly to the anti-diphtheritic serum, we should, I believe, use the anti-streptococcic serum without waiting for the report from the bacteriologist.

The method of producing the anti-streptococcic serum is in the main a similar process to that used in the production of the anti-diphtheritic serum, or by injecting virulent cultures of the germs instead of the toxin.

Dr. Charles T. McClintock of Ann Arbor writes as follows: "As regards the difference in methods for producing anti-diphtheritic and anti-streptococcic serum, I may say in general that the streptococcus, like a number of other germs, does not readily give off its toxin to the surrounding liquid. If you want to get the toxic properties of the germ, you must take its own protoplasm. On this account we are compelled to use the germs themselves, in order to successfully immunize an animal. The filtered toxins are not very powerful. This is the essential difference between the two materials. In the case of the streptococcus we use a living virulent germ in bouillon culture."

Dr. Dillon Brown of New York, says: "To test the value of a streptococcus antitoxin we must not use the toxin; but the culture itself. The point is that in streptococcus infection, the germ itself finds its way into the blood and viscera, while in Klebs-Loeffler infection, the bacillus is rarely found in the viscera on autopsy. In one case, you have a toxin only to fight, and in the other, you have both the germ and its toxin."

There has been a great deal of good work done quite recently in this investigation of the anti-streptococcic serum and I feel confident that we are near a solution of the problem. The New York Board of Health is having it carefully studied in the Willard Parker Hospital.

The great lesson we may learn from the history of serum therapy, bearing upon scientific advancement, is that we should keep our minds open to receive testimony and look forward, not backward. We are at the beginning only of a great era in medicine. Medicine is partly a science, partly an art. The laboratory worker and the student are scientific producers of the colors which the practitioner, the artist, puts on the canvas. If we work together, the one investigating and producing, the other investigating and using, we make more rapid strides, get quicker results, and mutual confidence produces mutual good-will and a cheerful exchange of ideas of advantage to all.

A certain doctor had occasion, when only a beginner in the medical profession, to attend a trial as a witness. Counsel, in cross-examining the young M.D., made several sarcastic remarks, doubting the ability of so young a man to understand his business. "Do you know the symptoms of concussion of the brain?" asked the learned counsel. "I do," replied the doctor. "Well," continued the attorney, "suppose my learned friend, Mr. Bagwig, and myself were to bang our heads together, should we get concussion of the brain?" "Your learned friend, Mr. Bagwig, might," said the doctor quietly.—*Argonaut.*

It is estimated in Madrid that since the beginning of the Cuban revolution, the army of occupation has lost nearly fifty thousand men, of whom by far the greater number died from disease. The total number of patients in the military hospitals in one day recently was 9,475, of whom 1,035 were suffering from yellow fever, 1,331 from malaria, and 520 from wounds.—*Medical Record.*

A Quick Diagnosis.

At a surgical clinic a few days ago, before a class in the Harvard Medical School, a patient was shown who had a wound on the thigh caused by the bite of a rat. The instructor having asked the class for a diagnosis of the case, one of the students replied promptly, "Rodent Ulcer."—*Boston Medical and Surgical Reporter.*

"Oh, mamma," said little Willie, as he made his first close inspection of a bicycle, "this machine has got rubbers on to keep its wheels from getting wet."—*Exchange.*

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:

A. L. BENEDICT, A.M., M.D.

SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, DECEMBER 19, 1896.

PUBLISHERS' NOTICE.

Subscriptions to the REPORTER are payable in advance, and the season being at hand when renewals are most frequent, the publishers request each subscriber to examine the address printed upon the wrapper in which the journal is mailed. The date printed with the address is that TO which the subscription is paid. The subscriber will see at a glance the status of his account. Formal acknowledgment is made of every remittance as received, and the date upon the wrapper is revised accordingly. If not properly altered within three weeks, subscribers are requested to notify us of the oversight in order to prevent subsequent mistakes. Delinquent subscribers will learn the date since which their accounts are in arrears.

EDITORIAL.

AN EDITOR ON EDITORIALS.

The readers of the REPORTER may have noticed that, during the present year, most of the editorials have dealt with educational, ethical and other general subjects which are, in a sense, lacking in a practical bearing on medical art. It is questionable whether we may speak of this limitation of editorial discussion as the policy of the REPORTER, since it has arisen spontaneously and without a formal declaration of opinion by the editorial staff. Yet the fact that the members of the staff have each followed the same general course, shows a

unanimity of opinion much better than if the individual writers had been controlled by an explicit rule.

Many journals have followed the custom of basing editorials on reports of foreign medical progress. The subscribers to the REPORTER may have missed such editorials but they can not complain that the journal has ignored this subject, since it has been fully presented in a special department of the REPORTER, which has occupied a place in most of its weekly issues. We believe that a translation should appear as such, properly credited to its foreign source and with the name of the translator as a guaranty of correct rendering into English. The use of the writings of scientific investigators, diluted with editorial comment, does not seem to us a wise or proper custom, unless the matter in hand is of so great importance and involves so radical a change of medical opinion as to warrant its inclusion with the department of news.

Neither do we believe that original, scientific or practical articles should appear under the form of editorials. Such a method can readily be pardoned in a journal conducted solely by one man and having a limited circulation, for, in that case, every one knows exactly who is meant by "we" just as "he" stands for the husband and father in a family. But in a journal of wide circulation, reaching many readers beyond its immediate circle of subscribers and penetrating into distant States and countries, the editorial pages are not the proper place for original articles. In the first place, every writer and investigator has the right to whatever credit may attach to his work; in the second place, the reader of an article has a right to know—not merely surmise—by whom it is written. The editorial staff of a medical magazine may properly assume a more intimate acquaintance with medical news than the physician not connected with a journal; if they do not possess this superior knowledge, they have no qualification for the position which they occupy. They may also, without affectation, claim to be in closer touch with the ethical and educational needs of the profession than any one who has not given such matters especial consideration. But here, the authority of the editor stops.

When it comes to the practical consideration of medical topics and the preparation of articles dealing with diagnosis and treatment, the editor as such, is no more qualified to express an opinion than any other practitioner, although he may, from the necessity of keeping watch over advances in medical art, be better qualified to judge between various proposed methods, than an equally good physician who has not followed so closely the current history of medicine. Thus, in our opinion, the "practical" editorial should be limited quite closely to the balancing of rival methods, with the attempt, not so much to win adherents to one theory or another, but rather to allow an impartial consideration of the claims of each.

It is doubtless true that most editors of medical magazines have achieved at least moderate success in the practice either of general medicine or of some specialty, though some are purely literary men and incapable of practicing medicine except on paper. But the editorial general practitioner can scarcely pretend to instruct the specialist, nor can the editorial specialist lay claim to accurate knowledge of provinces of medicine in which he has no daily occupation. In short, so far as ordinary medical practice and opinion are concerned, he should drop the editorial mantle and speak from the authority of his individual information.

It is amusing and pitiful to note the didactic tone of the editors of a certain class of medical periodicals and the humble appeals for information of the correspondents. Such a reciprocity indicates a poorly educated clientele and an editor who is either pretending to information which he does not possess or who is giving elementary instruction which his subscribers ought to have had before they were turned loose on a suffering community. At the same time, we recognize fully the advantages of a friendly relation between editor and subscriber and are always glad to furnish such information as we may or to obtain it from other sources when our own fallibility is in evidence. But we believe that, as a rule, this function of the editor should be performed privately. Information as to illegal practitioners and violations of the law or spirit of proper practice, criticism and suggestions, by which the REPORTER may be made more useful, are always welcome.

We keep constantly before us the ambition to make the REPORTER the best practical medical journal of the country, to publish the results of the best study and observation—remembering that it is the contents of an article and not the name of its writer that must be considered—to present medical news and reports of the progress of the medical world in their proper departments and to confine the editorial expressions to matters on which the REPORTER may modestly hope to mould opinions and elevate the tone of the profession.

CORRESPONDENCE.

AN UNUSUAL IDIOSYNCRASY.

EDITOR OF THE REPORTER:—We not unfrequently meet patients who cannot take potassium iodid to the usual amount, without causing iodism. But, so far as I know, the following case stands by itself. It seemed necessary to get the man quickly under the influence of the iodid; and this prescription was written:

℞

Potass. Iodidi . . . . . ʒij.
Aquæ Pura . . . . . q. s. ad fl ʒij.
M. Ft. sol.

Sig.—Take a dose well diluted in water three times a day. Take five drops the first dose and increase one drop each dose afterward.

When the dose reached twelve drops the patient said it made him feel so ill in the stomach, that he did not think he could bear a larger dose.

It was found that he was taking it before meals, in a teaspoonful of water, and he was told to dilute it in a half or one wineglassful of water, and take it after meals. Fifteen drops caused vomiting, and so he was directed to take it in milk, and to take a few drops of peppermint essence before taking it and to rinse the mouth with the essence after each dose.

When twenty-two drops was reached, he reported that he had a couple of "nervous spells" while dressing, but none after, and felt as well as usual. He was told to continue the medicine as directed, until thirty drops was reached, and continue that dose until he was seen again. Four days later he was seen, and said he continued until he took twenty-five drops at a dose when the "nervous spells" were so frequent and severe that he could not feed himself and he quit taking it and had no "spells" afterward. When asked what the "spells" were like, he said he did not feel nervous, but acted just like a dog that had been poisoned with strychnin.

He was told to begin again at fifteen drops, and take as directed, and if the so-called spells returned, to report. When

the dose had reached twenty-three drops I had an opportunity to see him in the condition described and his comparison was very apt. Had I not felt very sure that no drug but the iodid had been taken I should have had no hesitation in saying he had taken an overdose of some one of the strychnin group of poisons. Twice the dose was reduced to fifteen drops and then increased one drop a day, but whenever the dose got to twenty-four or twenty-five drops the spasms made it impossible for him to feed himself.

Omitting the medicine for a day left him all right. He could take doses of twenty drops without trouble. The man also proved unusually susceptible to the convulsive action of strychnin, which, when taken in an aggregate amount of one-sixteenth grain daily, would in four or five days produce spasms so similar to those caused by the iodid that he believed he was taking the same medicine in a different form. The only difference I could detect was, that when they had been produced by strychnin, I could reproduce them at will by various means, but when produced by the iodid, they could only be reproduced by electricity, a very weak current always succeeding. At this stage the man disappeared, and I have so far failed to trace him. The particular two ounces of iodid used was not tested as to purity, but the prescription was put up by myself and it was taken from about the middle of a five pound lot made by a reputable American firm, and had answered all requirements of the U. S. P.

F. R. MILLARD, M.D.

San Diego, Cal., November 29, 1896.

ABSTRACTS.

CLEANSING AND CLEANLINESS IN ABDOMINAL SURGERY.*

A few days ago I read the detailed description of an operation for the removal of a bullet lodged in the brain, the operation being performed by one of our best known European surgeons, and a pronounced follower of the school of Lister. He first removed the dressing and exposed the scalp, which looked like a large billiard ball excepting for an ominous bluish spot where the bullet had bored its unkindly way. Then he took a scalpel which was dripping with antiseptic, a precaution that had not been taken with the foregoing bullet, and deftly incising the scalp, while almost all the time an assistant allowed a fine stream of warm water—sterilized by being boiled and allowed to cool to a safe temperature—to play from an irrigator upon the field of the operation. Then instrument after instrument was used (all evidently the subject of pus, for they all "dripped with antiseptic") through the track of the wound, but the locus of the infected bullet was left the prey of the germs which had been carried there and had been working at least forty-eight hours before the operation.

The operator had not read Mr. Ludham Green's interesting papers on how difficult, if not impossible, to sterilize the hands of the operator, for he had consistently made no attempt in that direction, and yet he closed the wound with a pellet of cottonwool fully impregnated with corrosive sublimate. He then addressed his surroundings on the marvellous results obtained in modern times by antiseptic surgery.

In the museum of the Royal College of Surgeons is a large crowbar, technically known as a jumper, which went, under the influence of a charge of gunpowder, from below the chin of the user and straight through his head and out at the vertex, carrying into the wound a lot of germs and leaving them there. No sterilized water was used about the superficial wound and no corrosive sublimate was then employed, about the

*Lawson Tait, M.D., F.R.C.S., Eng., F.R.C.S. Ed., etc., in *Medical Press and Circular*.

end of the last century, yet the patient got well and remained so for years. The museums of this country and of others literally swarm with specimens which prove the receipt of various cerebral injuries with complete and permanent recovery, so that the belief now seemingly established in the minds of surgeons for the present moment that a stream of sterilized water and a few grains of corrosive sublimate in the superficial dressings gives any greater security for recovery is no foundation in fact, and is a mere temporary mental aberration.

Some few months ago I read a paper by the same surgeon. I have already quoted on the subject of the influence of germs and in the short space of a column and a half of an ordinary medical journal is used thirteen instances and phrases as "it is now fully established," "it is beyond dispute," "it must be universally acknowledged," "Smith has proved," "Jones' remarkable observations were established," and "so a complete result of Robinson's original researches we must believe," though in not a single instance would I, for one, admit anything of any one of the single assertions. It happens that those now interested in Smith, Jones and Robinson as three frequent contributors of papers on the application of the ever-advancing, ever-developing, ever-changing conclusions of the bacteriologists to the practical work of the surgeon, and such men, always anxious for second-hand novelties, forget in one week what they said the week before. In their writings, it is an easy matter to picture or detect the extraordinary phases of the evolution of the practice and principle of Listerism, though it is only fair to say that I use Lister's name here with this qualification, that he, whilst the originator and still the chief advocate of the doctrines so various and so varying, is not responsible for more than about half the nonsense which has grown round the original antiseptic religion. There have been a large number of surgical "Pauls" who have freely disseminated perplexing epistles to the various surgical churches of the world, and thereby much and very acrimonious differences have arisen.

The antiseptic generation has now sped its cycle, from 1866 to 1896, and we have come back to the figure of the clock at which we started. The time exactly embraces my own surgical life. In Glasgow and in Edinburgh I saw patients die of the same terrible infliction, no matter what had happened to them. I saw removals of breasts die with a fatality which seemed to rival that of amputation at the middle of the thigh, and yet, in my own practice during the cycle, out of many hundreds of cases of removal of breasts, how many I could not venture to guess, I think it pretty certain that the mortality has been a long way under five per cent., has probably not been one per cent., in fact, I can call to mind only two fatal cases.

The crowded wards, the deficient ventilation, the one salivary dish, the one sponge in each ward, and the wants of ordinary lavatory cleanliness were the causes of the terrible results. The carbolic oil, the putty and the lac plaster may have had some countervailing influence under the circumstances of those horrible old pest houses, but in practice outside such influences they were useless. These details, together with others, which ended finally in the harmonious logic of the spray, marked the first check of the antiseptic cycle, a time during which it was devoutly believed that every germ was potent for evil and every resting spore was a surgical pest. Every germ, every spore, every scrap of harmless dust must, therefore, be submitted to a process of destruction by some potent chemical agent. This chemical agent was constantly changed. So soon as one was contrived, adopted, belauded, and trusted it was found to be wanted when weighed in the clinical balance. The chemical manufacturers were nearly wild, and many of them were ruined by the continual changes, and the antiseptic market rate for years was something more variable than African gold shares.

When the spray was introduced I was led by circumstances altogether outside my own convictions to range myself once more as a follower of the chemical antiseptic school, though I did not for a moment forget nor neglect my old methods. I performed a hundred consecutive ovariotomies with a full and complete adoption of all the antiseptic precautions of the Listerian school of the period, and I published a paper in the "Trans-

actions" of the Royal Medical and Chirurgical Society contrasting the details of that series with those of a consecutive hundred in immediate opposition to them, and the contrast was not in favor of the antiseptic practice.

By this time I had become thoroughly persuaded as to the future progress of the antiseptic doctrines and practice, and I did so in what I called an experiment, though it was rather a satire, that is, I went through all the ceremonious observances with gradually diluted solutions until I used nothing but boiled water, and this was dispensed with. Finally, I used only ordinary tap water, and then I gave up the spray.

This is precisely what has happened all round. The poisonous solutions were mentioned, the spray abandoned, vigorous hunting for germs was advised and the antiseptic belief so modified, that it was lastly accepted that not every spore and germ was benefited, but only such as might yet be identified.

But, on the other side, we found the cubic space allowed to each patient rapidly increased, new hospitals built, and above all, the segregation of surgical patients enormously advanced by the erection of cottage hospitals all over the country. For my own part, between 1878 and 1880, I received an accommodation of about forty beds, for the most part the occupants of which had each a separate room, in fact, practically they may be said to have all had separate rooms. The effect was at once apparent, for my mortality went down from about 30 per cent. to less than five, and I had long runs of fifty, sixty, eighty, and even as far as 146 consecutive operations without a death. Even hysterectomy, the most obstinate of all abdominal operations to yield satisfactory results, has within the last ten years given me runs of thirty, forty, and even forty-five consecutive successes. What are the explanations? The answer is that, though I cannot promise anything from which I can "absolutely prove" or "make it apparent beyond doubt," or anything of the cocksure order, yet I can give basic conclusions which will be with difficulty upset, and those who neglect them will have to bear serious responsibility in the criticism of the future.

The first conclusion at which I arrived concerning abdominal operation was, and it remains the strongest now, that the more the patients submitted to them are separated, the better. For this purpose, and for the greater part of my practice, I adopted and have used a room for each patient. Sometimes with a press of work I was tempted to "pack" as we used to call it, that is, put two patients in one room after the first six or seven days, but I had so frequently to regret this that I ultimately abandoned it.

I am quite sure that there is much truth in one conclusion I have often advanced, that time has much to do with what will happen in the septic infection of an abdominal section. The fourth night is the critical night with all save hysterectomies, and with them that is not to be so definitely fixed. If an ovariotomy is all right on the fifth morning the chances of her going wrong are small indeed. But if you "pack" them they will have hematoceles, stitch abscesses, pulmonary complications, mumps, and all sorts of secondary troubles, in proportion far greater than if you keep them absolutely one in each room. These complications do not affect the mortality much, but they prolong the convalescence in a fashion of the most annoying kind. This has been still more impressed on me during the last three years, in which I have far more widely adopted the plan of operating in the houses of the patients and leaving the subsequent treatment of them to their private medical attendants. This is now possible, seeing that I sedulously avoid anything in the shape of gratuitous work, whereas, for more than twenty years I did not get payment of any kind from more than one-fourth of my clientèle, and not more than costs out of pocket from one-tenth. I am now, therefore, working solely in a class where it is possible to have all that is requisite in the way of accommodation in the houses of the patients; and after the operation is over, I am seldom required to see the patients again, recoveries are so little interrupted. All this experience points out to me the extreme importance of segregation and the uniform results of the work at the Sparkhill Hospital, not in the hands of one man, but in the hands of all to whom it has been entrusted, proves this

as far as proof in surgery can go, for segregation is carried out there almost as completely as it can be carried out in the best houses, whilst the perfection of the sanitary arrangements provided by the Committee of Management are almost absurd in their completeness of detail.

All this and the necessity for it enforced on my mind connected with the complete banishment of every fear of germs, either wholesale or collective, though there still remained with us the wholesome dread of certain specific poisons the nature of which I do not know, and I think I may safely say that their nature is equally unknown to everybody else and first of all of them, as deadly beyond all things known, that is, the poison begot in the peritoneum and uterus of the puerperal woman, and in some cases dying after abdominal sections.

This brings me to speak of the third phase of the slowly-developing Listerism or antiseptic doctrine, when it has begun to call itself aseptic and to adopt some of the known doctrines and practices which I have been practising since 1881. All that I have been saying up till now leads me to that condition which, after segregation, constitutes my surest general condition essential for success in abdominal surgery and going a long way to explain our modern success—I mean cleanliness.

Cleanliness in surgery may be divided into general and specific. General cleanliness, such as close attention to cleaning wards and all in them, the cleanliness of all linen, bedclothing, and the personal cleanliness of the surgeon and his members of his staff, are matters I need not waste time over. The details of specific cleanliness are matters much more in need of discussion.

For a long time in the earlier part of my practice, I allowed all properly introduced and qualified practitioners to visit my practice, and they came in great numbers, chiefly from America. But I soon had to stop this kind of hospitality and to limit admission to such as came as serious-minded students, prepared to see and understand what they saw. The reason for this was sought, the "globe-trotter" came and saw one or two operations and departed without understanding anything he had seen and, if he published, perversely misrepresenting the facts. To this mistake is due two misstatements which even now appear at intervals in the medical journals of the Continent and America. The first is that I really am a devoted disciple of the chemical germ-destroyer school, but that I have some substance, one which I will not disclose. The second is that my secret is "water sterilized by boiling," and this ridiculous misstatement recurred only a few months ago at one of the great congresses of America, and from the mouth of one of my old pupils, Dr. Ricketts, of Cincinnati, who spent six months with me.

It is now fourteen years since I have used sterilized water for any purpose save to raise common tap water to the temperature required, so that the mixture would be probably five parts common tap or well water and one part water which had been boiled and thereby sterilized. The mixture would have a temperature of about 102 deg., for my hands will not stand much more with comfort. I have yet to learn that such a mixture deserves the term of "sterilized."

My attention to specific cleanliness is as close as can be given. It may be divided as between the instruments and hands of the operator and the abdomen of the patient.

I hail with great satisfaction all the wonderful inventions and devices of the modern operating theatre, for securing cleanliness, for that cleanliness can be secured only by the work of women, and women in themselves have not the slightest idea of cleanliness save on the surface, and unless they belong to the really well-educated classes. This is a fact which no one knows so well as he who has gone through the filthy drudgery of a gynecologic out-patient department, when fifteen out of sixteen of the patients have lice or fleas upon them, and often both. This is the material from which the great bulk of the so-called trained nurses are obtained, and with this training, unless most especially well looked after, they alter their habits only in the sense of the smart cap and the attractive uniform. They remain as dirty as ever, and it is therefore necessary to give them shelves and boxes of plate glass.

All instruments with sliding tubes, screw or bended joints should be abandoned, every joint should be capable of being unshipped, and after every operation every instrument used should be scrubbed with raw turpentine and a brush, and then well washed with soap and water. If this be done, immersion in cold tap water for the *next* operation is all that is wanted.

Sponges—ah! they want a paper to themselves! They are, and ought to be, the terror of the operating surgeon, and I cannot stay now to say what I have to say about them, save that new sponges are bad, old sponges are dangerous, and that none of them should ever be boiled. The Americans will have it that I boil my sponges, but I never did such a thing but once and that ruined the lot.

Now I come to the real subject-matter of my paper, the cleanliness or cleansing of the patients.

I see that a number of superstitious observances on this subject are still recommended, such as the application of an antiseptic pad to the abdominal wall for twenty-four hours before the operation, etc., etc.

I have never employed any such plans, being quite content with a soap and water washing of the skin to remove the dead fat and epithelium with which women are always coated and generally thickly. If there were any real poison in the skin no antiseptic pad would remove it in twenty-four hours. The real poisons known to me as absolute realities, are those of which I have spoken as occurring in puerperal peritonitis, cannot be removed by any known germicide from the hands of the surgeon infected by them. Mr. Ludham Green's experiments seem to show that it is impossible to cleanse the hands from the ordinary spores of decomposition, and yet we know that nowhere is epithelium reproduced and shed at the rate it is on the hand. My knowledge of the terribly infective power of the puerperal poison, from my own experience and that of others, has been so emphatic, and the lessons so disastrous, that I am persuaded that the poison, whatever it be, permeates at least the whole epithelial layer and cannot be got rid of, save efflux of tissue and skin, and that it is not safe for anyone so infected to operate till at least a fortnight or three weeks have elapsed. Have there not been lessons enough in the same direction by the spread of puerperal fever by the hands of the *accoucheur*?

I am not alarmed at the conclusions to which Mr. Ludham Green's observations point, for I do not fear the ordinary germ poisons at all. But still I take the precaution of keeping my nails short and clean, and of washing my hands in raw turpentine the last thing before performing any operation and then washing off the turpentine by ordinary soap and water. My reasons for this may be seen in the simple experiment of washing the hands three or four times in the ordinary way, and then in perfectly fresh water, repeating the process with the addition of turpentine. After the water has stood for a few minutes there will be on its surface evidence of a dirt of a very convincing kind. That dirt must be either in the clear turpentine or it must be a layer of dirt removed from the hands by the turpentine which resisted the previous efforts with soap only. The latter conclusion is that accepted by me, and it accounts for my using turpentine to the patient's skin and my own, as well as to my assistant's, in the rare cases when I need one.

Thus great cleansing, and I think by far the most important of the lot, is the cleansing of the abdominal cavity during and after operation.

Mrs. Flinders—John, you must put an advertisement in the paper for another girl to-morrow morning. Mary is in paradise, now.

Mr. Flinders—What! Did she start the fire with coal-oil?

Mrs. Flinders—No; she's got a chance to work in a crockery shop.—*Indianapolis Journal.*

"Jarley, the editor of the *Hustler*, is an absent-minded fellow." "How's that?" "He was dining with a friend the other day, and when asked if he would have some pudding he replied that owing to a tremendous pressure for space he would be compelled to refuse." *Washington Times.*

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, December 9, 1896.

The President, DR. J. C. WILSON, in the chair.

DR. EDWARD MARTIN presented a communication entitled

"AMBULANT TREATMENT OF FRACTURES OF THE LEG,"

and demonstrated the method of applying the dressing, also exhibiting patients. The method of treatment consists in so applying the plaster dressing that a patient, instead of being confined to bed for five or six weeks, can get about and attend to any light occupation. The dressing had been applied to twelve patients in the last six or eight months, and it was hoped that all would be present, but only five were able to come. Dr. Martin has employed the dressing in upwards of thirty cases and the results have been good. There were two cases in which the results were not thoroughly satisfactory, but in these Dr. Martin did not apply the dressing personally. One was an instance of Pott's fracture. The deformity was not greater than is often noticed after treatment by the fracture-box, but there should have been none. The other was one of compound fracture, for which the patient was operated on. The wound healed kindly at first, but later it broke down and the fracture was found to be ununited. The bone was then cut down upon, and a portion of the tibial shaft, about two inches, resected. A few days after the operation, as the operation-wound was running a sterile course, Dr. Martin directed an ambulant dressing to be applied. The patient was up and walking five days after the operation, and he apparently did well, the bone uniting, although there was some deformity. Dr. Martin has never used the dressing for fractures of the bone above the knee, and with the exception of the last case all have been simple fractures.

The first patient exhibited was a boy, who was run over by a bicycle, and both bones of the leg were broken at the middle third. There was no difficulty in replacing the bones in good position, and an ambulant dressing was put on a few days after the injury. After the plaster was applied there was no pain, and the patient has been walking ever since—that is seven weeks ago. There seems to be less stiffening and after-trouble than is common when the fracture-box is employed. The boy has been very comfortable and has been saved a long confinement in bed. The first dressing applied broke, because of poor plaster, and a second one was put on about ten days later.

In the second patient, a boy, the first dressing was poor and a second had to be applied. The latter was worn for five weeks. The union is perfect and there is no disability.

Dr. Martin explained that he was not advocating this method of dressing particularly; nor was he trying to prove that it is better than any other dressing. He merely wanted to decide what its real merits are, and he was simply taking testimony.

The third case was one of fracture of both bones of the leg at the middle third, during a fight. The patient began walking the day after the application of the dressing. He has been coming to the Dispensary to be dressed, and has been saved several weeks in bed.

The fourth case had a Pott's fracture; the patient began walking the next day, but had some pain.

The last case was in an old woman, who fell down stairs some three or four months before, breaking the upper third of the tibia and fibula. There was very little deformity, and the dressing was applied promptly. She had less use of the dressing than any patient that Dr. Martin has thus treated. She could not walk without a crutch or chair. She did not go home for three weeks. She did not complain of pain, but did not seem able to manage the large, heavy dressing. The day following the application of the dressing, the second after her accident, Dr. Martin took her by the hand and led her up and down the ward, but the walking was not rapid or easy. Perhaps the best thing the dressing did for this patient was to shorten her stay in bed and allow her to go home and walk about one or two weeks sooner than she otherwise would have done. She presented absolutely no deformity; nor did any of the cases.

The cases presented were not selected by any means, and represent very clearly what can be expected from the dressing. The first proposition to treat fractures by the ambulant method was made by Bardeleben, in 1894, and following him, a number of German surgeons tried it. Bardeleben reported upwards of 111 cases. Some of his colleagues reported a number of others, so that the total number was 200. Since that time Dr. Martin has had upwards of thirty cases of his own.

The Germans apply the ambulant dressing not only for fractures of the leg, but also for simple and compound fractures of the thigh. Some students of Dr. Martin's in Germany at the time of Bardeleben's first statement reported that the results in fracture of the thigh were unsatisfactory, marked deformity often resulting.

The principle on which this dressing is applied is that of fixation and shifting

of support. Given a fracture of one or both bones of the leg, as soon as the weight is thrown on the foot there is, of course, a tendency to overlapping of the bones. If the weight of the body could be carried from above the fracture to the ground by external supports, as by means of a plaster case passing from the knee-joint to below the sole of the foot, the tendency to overlapping would be at once corrected. If, at the same time, the weight of the body could be not only kept from causing overriding of the fragments, but could also fix the fragments in good position, there seems to be no good reason why the patient should not use his leg. This is accomplished by the so-called ambulant splint; the plaster is so applied that the weight of the body is carried from the tibial tuberosities just below the knee, to the reinforced portion of the dressing lying below the sole of the foot, pressure upon the malleoli being avoided by abundant cotton padding. This dressing fixes both the joints contiguous to the fracture. It is, perhaps, open to a serious objection, as it entirely prevents the use of massage. It is inapplicable to certain cases, *e.g.*, when there is great swelling, when the shape of the leg is such that the weight cannot be carried from the tibial tuberosities to the rigid dressing that envelops the leg (this is particularly the case in very fat women with small bones). In most instances of simple fracture of the leg, when reduction is possible, either with or without ether, and when the swelling is not marked, the dressing is the most satisfactory that can be used.

The dressing should be applied as soon after the fracture as possible. It requires abundant padding with some elastic material. It must be so arranged that the plaster does not press into the malleoli, and the plaster must be neatly fitted below the knee; it should be worn from four to six weeks. On the day following the application of the dressing, the patient is gotten up, with the help of an assistant or a friend, who takes him under the arm and assists him in walking up and down the ward. The Germans use an apparatus very much like the walking device provided for children, the patient standing inside a sort of cage which is on wheels. In a day or so walking is possible with two crutches; in another day, with one crutch, and in a week the patient can usually get along with a cane or without any support. It is scarcely rational to apply this dressing to a hod-carrier and expect him to be able to continue his employment at once; but a man can attend to ordinary business pursuits.

Another advantage of the dressing is that less atrophy follows than after the use of the ordinary fracture-box or plaster dressing. Dr. Martin held that the fracture-box is a poor dressing. Even if the patient is lying in bed the plaster is best. The atrophy is a manifestation of a reflex neurosis as has been proved by experimental research. The great advantage inherent in the plaster dressing is that it enables the patient to be up and about and that anyone who realizes how irksome it is to stay in bed when it is not absolutely necessary may perhaps save these patients four or six weeks of lying on their backs.

As to the direct method of applying the dressing: In the first place the plaster must be fresh and that is often a very great trouble in plaster bandage. They are better made from a coarser mesh of gauze than that used for the ordinary surgical bandage. A lot of cotton batting should be provided and the fracture must be reduced. A mistake is often made in not etherizing more frequently than is done in the treatment of fractures. The first essential is thorough reduction. When there is swelling and the patient is sensitive there is a great temptation to trust that reduction is accomplished without making this perfectly apparent. In perhaps the majority of cases in applying this plaster bandage Dr. Martin gives ether. He always does this when it is not absolutely certain that the bones are not in proper position. The leg is then enveloped in a flannel roller, as is customary in the application of all plaster dressings; the cotton is wrapped about and then the plaster is applied.

For the purpose of flanging out the lower part of the plaster and giving a little more strength, Dr. Martin has had made some slightly flexible steel rods, such as are used in orthopedic work for bracing shoes. They are flexible so that they can be molded to the desired shape. In putting on the dressing it is essential that the toes should point a little upward. If they drag they are liable to strike things. The heel should be a little lower than the toes. A child of eight or ten years of age requires a flannel bandage two inches wide. The foot is covered in, no reverses being employed. In putting on the cotton batting it is well to tear it off the required width and it then rolls out very much like a bandage. The malleoli are thickly padded, so that the plaster may be prevented from falling in and pressing at these points. At the knee-joint where the plaster should bear pressure the batting is thinner. If the surgeon intends to take the plaster off himself it is well to partly cut it and for that purpose a lead strip is needed. The sole of the foot is padded with a mass of cotton at least three inches thick. The plaster is now ready for application. The first two turns take in the padding on the sole and keep it in the middle line. In applying this bandage a little tighter pressure is employed than with an ordinary plaster bandage as, because of the thick padding, the parts will stand it.

When the patient is placed under the influence of ether, he must be kept under until the dressing is hard. The bandage runs up to a little above the knee. Having closed in the cotton the external metallic splints are applied. These are molded to the part and covered in with more plaster. The patient is kept perfectly quiet and the toe is held up until the plaster hardens. In another twenty-four

hours the patient is allowed to put the foot to the ground. While the plaster is still moist a knife is run along the line of lead strip, leaving several bridges, which should be marked by pencil before cutting. When the time comes to remove the plaster the bridge is simply cut through by a penknife and the dressing will spring off. Even plaster dressings that have not had this preliminary cutting can be best removed with the penknife. The leg sas they come out of this plaster show some wasting; the ankle is stiff, but no more stiff than it is in the fracture-box.

DISCUSSION.

DR. ERNEST LAPLACE stated that the method demonstrated impressed him as being a very good one, especially for such cases as lying in bed would be injurious to. It is to be preferred to other methods, because it allows the patient to go about and to preserve his ordinary health, instead of being weakened by being kept in bed. It should be applied in every case in which the patient would otherwise suffer from being kept in bed. All patients when kept in bed will be lowered in vitality especially children. When children are kept going about, the nutritive processes are maintained and the formation of callus is more rapid. The treatment has the further advantage that if the leg is well extended while the splint is being applied there is no danger at any time afterward that contraction from undue irritation of the muscles in the neighborhood of the fracture will result, and there is less likelihood of a deformity or of imperfect union at the point of the fracture. Whatever may be said of the fracture-box it is virtually an open dressing, and the surgeon and his assistants are constantly tempted to look and see if the fracture is doing well, with the result that the muscles in the neighborhood will be irritated and tend to contract. If it is possible at first to put a dressing on that will almost positively hold the bones in apposition and that will be permanent, that is the dressing to be preferred above all others; and should that dressing furthermore allow the patient to walk about, it is the ideal dressing.

DR. OSCAR H. ALLIS said that the oldest treatment on record and one that has never been reversed is, that in regard to fractures, there are two fundamental principles to be followed: first, to replace the fragments; second, to immobilize them. Dr. Martin has shown that these ends can be effected by the ambulant dressing as well as by the fracture-box. As to the important question of getting about, Dr. Allis expressed a fear that if a person had an ununited fracture or bad deformity following any new method of treatment, such as the one described, and were to go into the courts, the outlook for the surgeon would be rather dubious. The dressing of fractures with the ordinary plaster-of-Paris bandage has been long and favorably employed. The ambulant dressing need not interfere with this, as it may be made to take its bearing from a point above the fixation dressing. Dr. Allis further pointed out that in order for the patient to walk as conveniently as possible the foot is placed at right angles to the axis of the tibia; under these circumstances the stretching of the calf-muscles and the relaxation of others may result in overlapping of the fragments.

DR. WILLIAM J. TAYLOR said that if Dr. Martin had appreciated the amount of destructive change in the bones in the case specially referred to he would not have attempted treatment with the ambulant dressing. The case was not a suitable one; and the disease was very extensive, with overlapping of the fragments and a great deal of destruction of the bone. The patient was not seen until some time after the fracture. The site of injury was cut down upon and the bones were found very much displaced. The fragments of the tibia could not be brought together at all because the bone was broken at the lower end; consequently there was no possibility of good union. There was also a great deal of destruction of the tissue there.

DR. JAMES M. BARTON stated that he had used this method of treatment in some four or five cases at the Jefferson Hospital. In none was the femur fractured, but in all the tibia and fibula were involved. The results have been fully satisfactory in every way.

In the first two cases some anxiety was felt, and the patients were kept in the wards during the entire treatment. The dressing was removed in the middle of the treatment, but the apposition being found satisfactory the dressing was reapplied. Four strips of rather heavy tin, roughened to prevent slipping, were used.

If the patient in stepping puts his weight on the toe, he will soon break the cast at the ankle. To avoid this, it is usual to bend the foot at the ankle, making the patient walk on the prominent heel. Some patients have found this position very irksome, and the dressing, when it is about finished, may be completed by putting a mass of cotton, about the size of the fist, under the heel and covering it with the plaster bandages. By this means the patient is slightly elevated; his toe cannot readily come in contact with the floor, and the foot is comfortably maintained at a right angle.

DR. G. G. DAVIS said that, in most cases, the results of fractures are in direct proportion to the care exercised in treating them. The question suggests itself as to whether, in a difficult case, the means of treatment demonstrated would be as efficacious as other means. Dr. Davis believed not, although admitting that it was not brought forward as a means of treating all classes of cases. While the ambulatory treatment of fractures is a decided advance in surgery, and while progress in the treatment of fractures will be made in that direction, the question as to the best means of doing this has not yet been settled.

The next question is as to the time of application of the dressing. Shall a patient be immediately put upon an ambulatory treatment, or later? Personally, Dr. Davis believed that the best results will be obtained in nearly all cases by not putting the patient upon an ambulatory treatment until about eight or ten days after the bones have been broken, when the parts will have had time to glue themselves into suitable position.

Dr. Davis does not believe in the treatment of fractures solely by plaster-of-Paris, notwithstanding the assertion that plaster-of-Paris only gives unsatisfactory results in unskilful hands. It is an untrustworthy dressing to use from the first. Displacements can occur beneath the plaster, and these may remain unrecognized, to be discovered only upon the removal of the plaster. Therefore, it is preferable not to use any dressing that will prevent the surgeon from assuring himself that the fracture is in a good position. In some cases, in which the injury is comparatively slight, the tendency to deformity is almost *nil*, there being no displacement and practically no tendency for it to occur. Such cases will cure themselves under almost any plan of treatment. Ordinarily, the simple pain that is produced in walking or in attempting the use of a fractured limb will induce the patient to refrain and thus avoid appreciable displacement.

In the case of a patient under the care of Dr. Davis, with an undoubted fracture of the fibula and swelling of the ankle-joint, the limb was in a few days placed in plaster-of-Paris. Two weeks later pain was experienced, and on removal of the dressing it was evident that the tibia had been fractured obliquely through its outer half into the ankle-joint, and the traction of the tendo Achillis had drawn the heel upward and tilted this fragment forward. The position of the foot was apparently not changed in the plaster; it was only the pain that caused the dressing to be examined. Had this been a case of ordinary oblique fracture of the leg, the displacement would probably not have caused much pain, and the patient would have been allowed to have his leg remain in the splint, and the consequence would have been a deformity.

The field for ambulatory dressings for fractures is limited. While eventually the use of ambulatory dressings will become more general, and is in the line of progress, it is hardly as important as it is thought by some. It is comparatively easy to get brilliant results in children by the ambulatory method; so it is likewise by other methods. That a child can crawl around the floor with a fracture-box attached to its broken leg, is evidence of how little disturbance a fracture may cause. It has not been Dr. Davis' experience that a child's health runs down when it is kept in bed. On the contrary, children can live in bed almost indefinitely without their health deteriorating, and in tuberculous diseases at all events the health may improve. Therefore, the ambulant treatment is not so necessary with them. In many cases in adults there is no desirability of allowing a patient with a fracture of the leg, for instance, to use the affected extremity (the experience of the Germans has sufficiently demonstrated that the ambulant treatment of fractures of the thigh is not desirable, and the method is confined to fractures of the leg). The majority of people with fractures of the leg are not desirous, particularly in hospital cases, of at once resuming their active duties. Therefore, a certain period of recumbency or rest is not objectionable to them.

However, there are some cases in which it is desirable to get a person up and about as soon as one possibly can, and in these a dressing such as that shown is an excellent thing. Other means of achieving the same object would be the use of a high shoe on the opposite foot and crutches, the support of the leg being made by a dressing of sodium silicate, or other immovable dressing.

The use of various forms of apparatus was likewise advocated some time ago, and more recently again by Bradford, of Boston. Another very good way, and one of the most reliable ways, of achieving this object is by the use of the Thomas knee-splint, in which the support is taken upon the tuberosities of the ischium by parallel bars along the side of the leg. Surgeons are not yet qualified to state positively which is the best method of treating fractures; neither does the patient suffer much in the large majority of cases from his confinement on account of his fracture, but if the surgeon shows too great an anxiety to get rid, so to speak, of personal supervision of the case, in just that proportion will he be likely to find his results deteriorate.

DR. J. P. MANN said that he has used the ambulatory method of treating fractures several times, and is not convinced that it is the best method of treatment for these cases. As to the use of plaster-of-Paris in the treatment of fractures, there is not a bone in the body, except the skull, that he has not applied that to. In *The Medical News*, July 15, 1893, p. 70, Dr. Hearn and Dr. Mann reported seven cases of fracture—four of the femur, two of the humerus, and one of the radius and ulna—treated with plaster of Paris and splints. There was in two of these cases a quarter of an inch of shortening. One of the cases was in an old lady, seventy-eight years of age, who fractured her femur just above the knee, making a compound oblique fracture. The wound was immediately asepticised, the bone replaced, and plaster-of-Paris put on from the toes to the arm-pit. The woman lay in bed for eight weeks with very little discomfort. The result is to-day yet perfect. In all of the cases reported the results were good.

There would be some danger in a case of oblique fracture of the tibia in the use of the ambulatory dressing. The amount of cotton used about the foot and ankle seems to permit more motion than is desirable, and overriding of the bone would very probably take place. In

one of the children presented by Dr. Martin there seemed to be considerable backward curving of the tibia and fibula. In another there was considerable bowing outward of the leg. This, of course, might have existed before, although not evident in either of the unfractured legs. Of course, such results attend also other forms of treatment. It is preferable to use for all such fractures the usual plaster-of-Paris splint. In a fracture of this kind this splint is especially applicable because, during its application, extension and proper apposition of the parts can be very readily maintained. In case of a fracture along the shaft of the tibia, for instance compound, as that is the kind most frequently desired to be seen, a section of the plaster-of-Paris dressing is first placed above the seat of fracture and then another below the seat of fracture. Across the seat of fracture and along the sides of the leg are placed two strips of iron, which are incorporated between the layers of plaster. Thus the space can be bridged over, and then before fastening these lower two ends of the irons, which have been fastened above, an assistant makes extension upon the foot to put the bones in proper place. When the plaster hardens, it is impossible for the leg not to remain in extension. The wound is then readily accessible for dressing. Mostly, it is possible at once to cover the whole limb as far as necessary with plaster-of-Paris. If there is considerable swelling, absorbent cotton is used freely, and then, after the swelling has subsided, the first plaster dressing is removed and another put on that will fit more accurately.

No plaster-of-Paris dressing can be considered good unless it hardens within five minutes. Formerly, one of the strongest objections to plaster-of-Paris was that it took so long to harden. It was discovered some eight or ten years ago that if the materials used in plaster splints, as well as the materials used underneath the plaster, would not readily absorb water the plaster would harden slowly. Since absorbent lint and buttercloth (not cheesecloth) have been used it has been found that with a little salt put in the water, which should be slightly warm, the plaster can be made to harden within five minutes. In fractures in any part of the body away from the skull no dressing will do the work that plaster-of-Paris does. It is now being used extensively in hospitals, and as surgeons are becoming more accustomed to it they find no difficulty in its application. It can be removed very readily with an instrument devised by Dr. Reed, of the University of Pennsylvania. It was formerly removed with a penknife or saw, but Dr. Reed's instrument has greatly simplified its removal.

Dr. Edward Martin said that the possibility of producing deformity by bringing the toe up had occurred to him, but it did not happen to take place in the cases in which the dressing was used. The best dressing is that which does the work best.

As for the confinement in bed, it might be a good thing if all children could be kept in bed from the time they are five until they are twenty-one, but it seems scarcely a good thing to put children to bed if it is not necessary for their own comfort. It is rather better to keep them upon ambulant treatment if it can be done. If the amount of bone removed in the case operated upon by Dr. Taylor had been known, the ambulant treatment would probably not have been used. Under any circumstances it is doubtful whether the result was any better or any worse than would have followed any other method of treatment. The man returned to work, but, as often happens about the seat of old compound fractures, there developed apparently some necrosis one or two months afterward.

The material into which plaster is rubbed is a subject of indifference, provided that its meshes are of sufficient size—its absorbing power is dependent upon the removal of fat, a process to which most fabrics used in the preparation of plaster bandages are subjected.

Dr. Thomas J. Mays read a paper upon

The Local Application of Cold in Acute Pneumonia, Being the Third Collective Report; With a Discussion of Fever in this Disease.

(See page 767.)

Dr. James Tyson said that his own experience in the treatment of pneumonia with cold has been rather limited, but so far as it has gone it has been satisfactory, so satisfactory indeed, that he has concluded for the present, at least, to treat, in this manner, all cases of pneumonia associated with high temperature that may come under his care. The attempt to arrive at a rational explanation of the operations of cold in these cases seems to be attended with difficulty so great as to make it scarcely worth while to spend much time upon it in a brief discussion. It is well known that the fever is a symptom secondary to some potent cause, such as a vegetable organism or a toxin generated by it, while the fever is an index in some way of the seriousness of the operation of this cause. It is also likely that the treatment by cold is useful in pneumonia exactly as it is in typhoid fever, while the high temperature itself, being less prolonged, is *per se* less dangerous. The most desirable stage to reach in the practice of this matter is to get over the fear of any possible harm to the patient from the cold, for such fear is entirely unfounded. It is not at all a new doctrine that it is impossible to do harm by cold to a patient who is in a state of fever, as long as the fever lasts. It matters not much how this cold is applied, whether by cold baths or by opening windows and allowing the cold winter air to blow upon the patient. There is a certain advantage in treating pneumonia by the direct application of cold to the chest. One other part of great importance in this treatment is to discontinue the cold as soon as the temperature approaches the normal. It is also well

not to use the cold in those cases, especially met with in old persons and in alcoholics, in which there is no elevation of temperature.

DR. J. M. ANDERS said that in the discussion that followed the reading of Dr. Mays' former paper on the same subject he stated that he had used ice locally in a couple of instances of pneumonia with encouraging results. To that experience he has added half a dozen cases, in all of which the effect of the cold was also very good. In no case did the cold applied locally abort the disease, but the general course of the cases seemed to be somewhat milder than under other methods of treatment. The temperature ran a lower course and in three of the cases it seemed that the area of consolidation remained more distinctly circumscribed than in cases otherwise treated, although this may have been a coincidence. Dr. Anders has not, however, used cold locally as a routine measure; nor did he agree that cold is applicable to all cases of acute pneumonia. The cases so treated were selected. The patients were not infants, nor very old persons; they were not individuals who had been previously much debilitated or who possessed markedly sensitive organizations. If the advice laid down by Dr. Mays were followed rigorously accidents would be common. Occasionally instances will be encountered in which the cold will do more harm than good. Dr. Anders referred to a case of lobar pneumonia seen in the practice of a colleague in which neither the poultice of ice nor cold compresses could be tolerated. The patient was a lady about sixty-two years of age and seemed to have a very highly sensitive nervous system.

In all cases of pneumonia, particularly in the first stage, or that of engorgement, there is apparently a clear indication for the use of cold locally, as it is known that this agency causes contraction of the dilated capillaries and thus relieves or scatters congestion even. Now, whilst admitting these facts, and whilst believing that in the vast majority of cases cold should be used, still it should not be employed as a routine measure.

DR. H. A. HARE agreed that cold should be employed in certain selected cases of pneumonia; there is not a single measure that can be employed as a routine means of treatment in every case, and the difference is very marked between the application of cold in a disease like typhoid fever, and the application of cold in a comparatively short-lived disease, such as croupous pneumonia. Physicians, when called upon to treat a case of croupous pneumonia, are inclined to be therapeutists instead of being watchmen, and to use remedial measures all the time rather than when indications for them arise. After the stage of congestion has passed and the second stage has been entered upon, indications must be met and combated as they arise. The damage is then done, and we must aid in clearing up the wreck. A temperature of 103° or 104°, which only lasts for a day or two, does not exert any particular deleterious influence upon the patient. If it goes very much higher than this and comes to be a hyperpyrexia, then the question of heat-stroke must be considered. Below this, it is simply a manifestation of the disease, and the fever does not call for medication by drugs or treatment by external remedies. It is not likely that cold, locally applied to the chest, yields all the good results that have been claimed, over and above that of cold in the reduction of fever. In the early stage of pneumonia an attempt should be made to relieve congestion by appropriate measures, but if the lung is wrecked by exudate, it seems that cold will be of little service. On the whole, when the stage of consolidation is very well developed, the continuous application of cold would not necessarily result in resolution and absorption, and it is necessary to treat with care cases of pneumonia in which, either because of inherent feebleness or delicacy of the system, cold is contraindicated. The continued application of cold to the patient's chest, up to the time of crisis, may do exactly what the physician so anxiously tries to avoid, *i.e.*, produce a sudden fall of temperature from 104° to below normal, with the patient almost or entirely collapsed. One of the most important things that could be done would be to discover the limitation of the usefulness of cold to certain cases of pneumonia possessing certain peculiarities, and to see whether it is not possible, by carefully going over the statistics, to limit the application of cold to some particular stage of the disease. It can be imagined, for instance, that when pericardial complications attend pneumonia, an ice-bag might do good, just as it does good in some cases of ordinary uncomplicated pericarditis.

DR. S. SOLIS-COHEN said that if statistics might be relied upon to prove anything as to the treatment of any disease by a special method, the statistics presented would at first seem to prove Dr. Mays' contention, but cases of both croupous and catarrhal pneumonia differ so much in origin and in course, as well as in the complications with which they are attended, in the age and constitution of the patient, in the time and circumstances under which they are manifested, that it would be utterly impossible for any one plan of treatment to answer in every case, any more than one could expect a coat, no matter how good its texture or how beautiful its fashion, to fit every person in a large gathering. On the other hand, the statistics of Fenwick from the records of the London Hospital, which include one thousand cases of acute lobar pneumonia carefully studied, and in which all the concomitants, the ages and comparative vigor of the patients, the general and special symptoms of the cases, the complications, the diseases, if any, upon which the attack of pneumonia has supervened, the time of year and other modifying circumstances, have been considered, show one thing clearly and that is the usefulness of fever and fever-heat in pneumonia as nature's method of bringing about

recovery. It appears from these statistics that thirty-five per cent. of all deaths coincided in time with the sudden deferescence, the only period more fatal than this being that of the height of the fever. Those cases attended with an average temperature of 103° F. presented the minimum of mortality, the states of apyrexia and of hyperpyrexia corresponding with the maximum of danger to life.

In other words it is the extremes that are to be dreaded, whether of high temperature or of low temperature. These views are not novel or on trial. They are the old Hippocratic doctrine stated in modern language, and it seems that this doctrine, namely, that certain elements of the febrile complexus, and especially the febrile heat, being the reaction of the normal organism against the invading hosts of disease, are to be controlled but not antagonized, is thoroughly established. Notwithstanding advances in laboratory methods a great deal is still to be learned from the old clinical observers who studied their cases carefully and who took note of all of the environing circumstances, while with all the instruments of precision there exists the liability to overlook important facts. Careful reading of the teachers of medicine throughout all time will show that this doctrine of the usefulness of fever as nature's reaction against causes and processes of disease has been held by those whom we may properly regard as leaders of medical thought, and none of the recent exact investigations has tended in any degree to overturn that doctrine. It may not be easy to understand it or satisfactorily to explain its mechanism, but it is an absolute clinical fact.

It would be preferable to see a patient with lobar pneumonia run along with a temperature a little higher than one a little lower than the average. One could be more hopeful of a favorable result. It would indicate not so much the severity of the disease as the energy of the salutary reaction. On the other hand hyperpyrexia is unquestionably an indication of danger; it shows not an energetic reaction, but an unbalancing of the regulatory mechanism, perhaps as a result of profound intoxication, perhaps of constitutional weakness—but these are speculations upon unsolved mysteries. Dr. Cohen has seen a number of cases of pneumonia in which cold applications have apparently done good; a few in his own practice, more in the practice of others. He has seen some of Dr. Mays' own patients at the Polyclinic Hospital, which seemed to do remarkably well under the influence of local cold and who seemed to be pretty comfortable with it. If any general rule in these cases could be laid down it would be to use cold applications whenever they added to the comfort of the patient. They would then be likely to prove useful; but whenever they added to his discomfort they would be likely to prove harmful. Hot local applications in pneumonia have been used from time immemorial; and are to be preferred, if they seem to give relief. The same rule applies and the effect is probably very similar.

Dr. Ernest Laplace maintained that the pneumonia produces fever, or that fever in pneumonia is a direct result of the amount of toxin remaining in the blood, because of the development of the pneumococcus in the blood, and that there is fever in a direct ratio to the toxin present. This toxin is a chemic substance and it passes through the blood to the thermogenic centers at the base of the brain. These centers are irritated and the result is fever. That is no mystery, but a scientific fact which can be reproduced, not with the toxemia of pneumonia very well, because that is beyond any crude analysis of the chemist to-day; but pneumonia with fever can be produced by any chemical at will, say with compound tincture of iodin, as a direct result of the irritation of the base of the brain. Most violent diseases, whether surgical or medical, accompanied by high fever, have a tendency to recovery and those which are accompanied by less fever have less tendency to get well. In other words, when there are great disturbances of the body, the resulting variations of temperature will so alter the soil of the system as to render that soil itself deadly to the invading germs and they will die spontaneously and the patient gets well. Tuberculosis of spinal origin or of the hip-joint is at no time attended with the production of sufficient poison to alter the soil and make that soil itself death-dealing to the germ, as in pneumonia. As a result the body is slowly worn away and the patient dies. On the other hand the tetanus-bacillus develops quietly, but its toxin passes through and irritates the brain; it acts like strychnin, which, unlike compound tincture of iodin, will not induce fever, but simply causes violent spasm and as a result the soil is at no time death-producing to the germ. In other words, the progress of pathology, medical or surgical, is directly in the line of the reaction of the tissues of the brain, or of other organs, to the products of micro-organisms and the same resistance of the tissues of the body to the various toxins exists as between the tissues of the body and various drugs used.

Dr. J. C. Wilson expressed regret that in the collection of cases reported and their analysis the distinction between croupous pneumonia and broncho-pneumonia—two entirely distinct diseases—has not been made out. He emphasized the statement that the height of the temperature is no index of the severity of the process. Well-developed croupous pneumonias, beginning abruptly with high temperature, run, on the whole, a course usually more favorable than those in which the temperature does not rise above 102.5° F.

Dr. Wilson has been in the habit for some years of using applications of ice to the chest in the manner described by Dr. Mays, in the treatment of croupous pneumonia both in private and hospital practice. There is no reason to suppose that the application of cold to the

chest has any direct action upon the blood-vessels of the interior of the lung. It is certain, however, that it relieves pain to some extent, as well as lowers the respiration and to a trifling extent reduces the temperature. There is no ground for believing that it at all limits the extent of the exudate nor has a most careful study of the subject shown that it hastens the crisis.

DR. J. P. CROZER GRIFFITH said that the treatment of pneumonia with ice is no new one. He watched it years ago in Vienna and was impressed by the fact that it relieved pain, but did not influence the progress of disease in the slightest degree.

DR. M. V. BALL said that in croupous pneumonia in children between the ages of four and twelve he has found the cold treatment very useful. How it acts is uncertain, scarcely by limiting the course of the disease, although it does seem to relieve, pain and children sleep well under it, while there is no difficulty in applying it.

DR. THOMAS J. MAYS said, in regard to the differentiation between catarrhal and croupous pneumonia as they stand related to the treatment with cold, that in his earlier experience with the ice-bag he confined it exclusively to cases which were affected with the croupous variety of this disease. He soon found that others, among the first of whom was Dr. Franklin, of Hightstown, New Jersey, used it with equal success in the acute catarrhal variety following measles, etc., and since then Dr. Mays has used it in all cases of acute pneumonia, unless there existed some possible contraindication.

It has been well said that fever is no index as to the severity of the pneumonic process, although practically this point does not receive general recognition. Thus there may be very high fever with very little lung-involvement, and on the contrary, a large area of pulmonary disturbance with little or no fever. It must be remembered, however, that the degree of temperature present may not always represent the degree of thermotaxic disturbance.

Concerning the influence of cold on the pneumonic process it is very difficult to say anything definitely so far as the *modus operandi* goes, yet every observer will bear testimony that it possesses a direct influence on the local process. This was the experience of Dr. Lees, of London, who wrote on this subject before Dr. Mays did, and from whose work the latter received the inspiration which led him to test this treatment; and it has been seen over and over again by a number of other practitioners. It not only limits the pneumonic process, but in many cases when it is applied early enough it cuts short the disease.

In regard to the danger of fever Dr. La Place hit the nail on the head when he said that pneumonic fever develops the toxins referred to in the paper, and which have the power of producing convulsions, stupor, and other morbid nervous manifestations in the lower animals. Is it wise, therefore, to sit passively by and allow these agents to disintegrate the nervous system as far as they are capable of doing so, or is it not the physician's duty to make every possible effort to reduce the fever and thus check and annihilate this process of devastation? As has been said, it is well known that a temperature of 104° is not dangerous, at least not dangerous to life in most cases, yet to say this seems to be somewhat apologetic; for most physicians welcome a fall from 104°, rather than see the temperature remain at this point, and if intelligent efforts fail in bringing about a reduction, the fault does not lie so much in the physician as it does in the disease. While fever may be a good thing for the disease it is a very poor and dangerous experiment for the patient.

Nor does the coat-fitting argument apply to this case; for no one advocates the indiscriminate use of cold in pneumonia. There are certain characteristic morbid conditions which are known and recognized as pneumonia, and while it is true that cold does not fit every case in which such a collection of symptoms obtains, yet those experienced with cold know that it entirely fits the great majority of such cases; and those in which it is not admissible must be regarded as exceptions to the general rule. The same objection may be leveled against the external use of cold in typhoid fever; yet as a rule no one at present thinks of treating this disease without the use of cold-water baths.

The other objection that has been raised that the local is not superior to the general application of cold in pneumonia certainly gainsays the experience of Dr. Mays and that of every one else who has made a comparative study of this question. That general bathing is useless in this disease is not asserted but when it is desired to get the best effects of cold in pneumonia its influence must be concentrated on the local condition in the lung.

To the comparatively small number of cases of osteomyelitis, due to infection with the typhoid bacillus, in which the identity of the organism found was well authenticated, Bruin (*Annales de l'Institut*, Pasteur, April, 1896) contributes another. The bone affected was the left tibia, which contained a cavity filled with granulations and a small quantity of bloody pus. From the material removed at the operation a bacillus was isolated which proved itself to be identical with the bacillus of typhoid fever, after having been subjected to a careful study. A remarkable fact about the case was that the patient had had typhoid fever six years previously and an osteoperiostitis of the femur of the other limb during convalescence. There was also a history of pain in the left leg about the same time, which gradually quieted down, but had in latter years recurred at intervals. This case seems to show clearly that the typhoid bacillus can survive in bone for an indefinite period without necessarily causing very serious disturbance.—*Boston Med. and Surg. Journal.*

PERISCOPE.

NEWS AND MISCELLANY.

The connection between psychology and some physical defects of childhood and the bearing of this relationship on education was discussed in a recent number of *Pediatrics*. The good service rendered by school teachers in observing the mental peculiarities of the children under their care is illustrated by instructive instances. Among these may be noticed that of a school-mistress, who noted, without professing to explain, the inability of a large number of boys to spell correctly some of the simplest words. It appears to have been clear that this result was not attributable to mere ignorance, but rather to the wide prevalence of a degree of verbal deafness. If this explanation be correct it is evident that deafness in childhood and youth is much more common than has hitherto been suspected. Other cases referred to suggest the conjunction with deafness of a form of verbral amnesia, words being occasionally heard and even pronounced by a mute under exceptional conditions, but as surely forgotten. On the strength of these and other like observations the writer proposes the addition of special schools to the existing educational system for the purpose of meeting the difficulties of such cases. Probably a reform so radical is not sufficiently justified by the necessities of the case, and the responsibilities and expenses connected with gratuitious instruction are in all countries heavy enough already. What these investigations, crude though they be, do illustrate is the facility in observing many minor, but still significant, defects in childhood which belongs to the school teacher and the advantage of using this power as a means, not only of directing education, but roughly diagnosing physical or mental failings at an early stage while they are still in many cases well within the reach of remedial treatment.—*The Lancet.*

The question of how long a healthy person can remain without sleep has been experimentally investigated by two medical men attached to the University of Iowa. Somehow the inquiry seems to have just a little appropriateness when taken in connection with the arduous electoral campaign, the termination of which has just been reached by the election of a new President in the United States. However, Drs. Gilbert and Patrick, the two medical men in question, determined, without reference to other matters, to ascertain for themselves the longest period which they could remain without sleep. The result of their experiment was that they were able to keep awake continuously for four days and three nights. During that time they never slept once, but this was all that they were able to accomplish. At the end of the period mentioned they had arrived at such a serious condition of prostration that it would have been only at considerable risk had they attempted to prolong the experiment. Consequently they were compelled to desist, with the result that when they allowed "Nature's sweet restorer" to come to their aid a good night's rest was all that was requisite to relieve them of their fatigue. We cannot see, however, that their experiment has added very much to the scientific knowledge of this progressive century. Sleep is one of the gifts of a merciful Providence to man, and as such has become a law of Nature. To attempt, therefore, to ascertain to what extent the law can be broken without mishap does not appear to be a very logical proceeding, or one from the investigation of which any good is likely to ensue.—*Medical Press and Circular.*

A rare form of vicarious menstruation has been observed by Dr. Dswiemcinski, (*New York Medical Times*) where a female, menstruating first in her eighteenth year, married at the age of twenty-four. After a childless marriage of ten years her husband died. Three months before his death her menses disappeared for the first time, while at the same time a colossal swelling of the right mammary gland appeared in their stead. A large quantity of colostrum could be pressed out. At the same time there were pains in the breast which radiated into the arm. These symptoms lasted for three days and gradually disappeared, to reappear every month in place of the regular menses. The left breast was unaffected. He has observed this peculiar phenomenon six times. Dr. Cook, who was with the Peary expedition, says the Eskimo do not begin menstruating till they are eighteen or twenty years old, yet they have children at a much earlier age, and suggests that this is a proof that there is no necessary connection between ovulation and menstruation.—*New York Medical Times.*

NAPHTHALENE IN THE TREATMENT OF DYSENTERY.

℞

Naphthalene	15 grs.
Calomel	8 grs.
Essence of bergamot	3 drops.
Sugar	a sufficiency.

M. Divide into ten wafers. One to be taken every hour.—*Semaine Medicale.*

TYPHOID FEVER—

Salol	1 dr.
Thymol	36 grs.
Bismuth subnit	2 to 4 drs.
Mucilag. acaciæ	2 ozs.
Syr. tolutan	4 ozs.

M. Sig.—Tablespoonful three times daily.—*Memphis Medical Monthly.*

THE
MEDICAL AND SURGICAL
REPORTER.

No. 2077. SATURDAY, DECEMBER 26, 1896. VOL. LXXV—No. 26

ORIGINAL ARTICLES.

THE RELATION OF THE PHYSICIAN TO THE LAW.*

HENRY LEFFMANN, A. M., M. D., PHILADELPHIA.

Members of the Students' Medical Association: When asked to lecture before you, I selected this topic, because I know it is important and I hope it will prove interesting. "Every man," says Sir Edward Coke, "should know a little of law," and the comic Blackstone, an amusing sketch that appeared years ago in *Punch*, adds "the less the better." I am inclined to agree with the humorist, in so far that I think it unwise for any but lawyers to attempt to understand the methods of legal practice. When I see any one consulting an "Every One his own Lawyer" I anticipate disaster. On the other hand, the principles of government and the methods by which laws are made and enforced are the concern of all, and especially of the members of a profession that touches the law through that middle ground known as medical jurisprudence, or forensic medicine.

You are liable to stand in various relations, voluntary and involuntary, to the law and its methods. You may be plaintiff or defendant, prosecutor or prosecuted, ordinary or expert witness, and already in some states and possibly, before long, in all you may be jurors. It will be useless for you to resolve that you will keep out of courts. The profession which you have chosen will bring you more or less in contact with legal procedures, often of the gravest character. I do not propose to consider those cases in which you appear as the party to a suit, but only those in which you stand in your professional relations as an agent or actor in some event having legal relations.

At the outset, it may be well to note that the law takes no account of schools or sects in medicine. The schisms in medical organization are deplorable and real to us, but to the rest of the world they appear as mere prejudices, or they seem born of professional rivalry. In many cases courts have even placed regular graduates and uneducated, unregistered practitioners upon the same basis. It will not be worth while, therefore, to express opinions about regular

*A lecture delivered before the Students' Medical Association of the Woman's Medical College of Pennsylvania, December 5, 1896.

medicine, homeopathy, eclecticism, etc. in court. You will convince no one, and will produce nothing but a smile.

You may appear in court as either an ordinary or an expert witness. In the former you are called merely to testify to some incident or information of which you have knowledge in the same way and to the same extent as a layman. You may see a person run over, or you may have heard some conversation bearing upon some business matter. In such cases you will be sworn or affirmed without inquiry as to your professional education or experience, and you will be allowed to tell only that which you know of your own knowledge. As an expert witness you may go largely outside of these bounds. You may be asked your opinion on certain subjects and even be allowed to quote from books and journals, though on the latter point courts are becoming more conservative. Before testifying as an expert you will be subjected to some questioning to test your fitness for the duty. This will generally be a brief review of your professional life. Your admission as an expert is within the discretion of the court.

It has been a moot question how far a doctor is liable to duty as an expert without previous agreement to serve, and whether such service entitles to compensation above that of the ordinary witness fee. (The ordinary witness fee I may observe is about one dollar per day, and mileage.) The courts are not quite in agreement on this point, and I am sorry to say that the trend seems to be towards regarding expert services as but little entitled to additional compensation. As a matter of abstract law, there can be no doubt that courts are entitled to the services of any one, for the welfare of the community is above the comfort or convenience of any individual. The power that set "Uriah in the fore-front of the hottest battle" still exists in our modern State, and can command any sacrifice it needs, but in actual practice, witnesses are selected by the attorneys, and the pitfalls of expert testimony are so numerous that it is very rare that experts are called without careful consultation beforehand and the agreement for sufficient compensation.

Whether you appear as an ordinary or expert witness, you are served with a subpena, that is, an order signed by some legal authority. This is read to you by some person delegated by the court, and usually commands that "laying aside all business or excuses whatsoever you be and appear in your proper person, etc." A penalty for disobedience is appended and, as an illustration of the conservatism of the law, I may say that the subpenas of this county still state the penalty at one hundred pounds. County courts are limited by the bounds of the State in which they are located. The subpenas of New Jersey courts have no value in Pennsylvania, or *vice versa*, but the subpenas of the United States courts, which are issued in the name of the President of the United States are valid throughout the nation.

Your duty as an expert may arise either from services rendered in a professional capacity to the victim of some accident, crime, or disease, or it may be merely as an adviser upon some phase of a case. I prefer to consider the first condition in more detail.

You may, for example, be called to a patient suffering from symptoms which turn out to be due to criminal poisoning, and terminate fatally. Either through your own or another's statements, the case goes before the authorities and the legal machinery is put in motion. In most cases, the first person to investigate is the coroner, who inquires as to the cause of death. Massachusetts has medical examiners who take the place of this official. In this inquiry you must be just as guarded as to your statements, as if you were in the most dignified court. Your testimony will probably be taken down, the coroner's inquest is in public, and statements made without proper thought or care may return to plague you.

The law does not expect impossibilities. You must not be afraid to acknowledge the limitations of your information. Coroners often want experts to be positive, to give definite opinions so that a definite verdict may be rendered, but this cannot always be done. When a suspicion of poisoning has arisen, the inquest usually awaits the results of an analysis, and I may, in passing, say that I think it is a mistake

for one in general practice to undertake to make such analyses. Supposing that a verdict implicating some person has been rendered, the accused is held either in bail or without, in accordance with the degree of the suspected crime and the next move in the case is indictment. This is the specific charge and is inquired into by the grand jury, which is a secret tribunal before which only one witness is examined at a time, and which makes known nothing but its decision. If it finds sufficient facts to justify an official inquiry it returns a true bill, if not it ignores it and the matter ends. A true bill is returned to court and a trial follows. I may say here that the coroner and grand jury have the same power to compel attendance that the courts possess.

The work of the coroner and grand jury is usually one-sided, that is, the accused person has little chance of fighting the evidence. The grand jury indeed, does not hear the defence at all and the coroner uses his discretion as to allowing opportunity to question witnesses.

It is at the formal trial that the lines are strictly drawn and that the doctor is put upon the test of merit and ability. I pass over without special allusion the many annoyances and inconveniences of courts. The Law's delay is proverbial and there seems to be no remedy for it. Your first experiences in court will both interest and exasperate you. You will certainly be interested in observing the workings of a system which is the growth of centuries. The lawyers tell us that the law is the accumulated wisdom of a thousand years. In the criminal jurisprudence of this country, the most humane in the world, there are many features which represent centuries of struggle or of very slow evolution. Many features which seem odd to you are really the exponents of principles for which blood has been shed on many a battlefield and for which many a martyr has blackened at the stake. Our system is substantially that of England, but the jurisprudence of continental Europe, often much extolled by Americans who do not understand it, represents harsher principles.

You will be exasperated by attention to what may seem to you unimportant details or diversion of the inquiries into unnecessary channels, but you must always bear in mind that there are technical methods in the law which are not comprehended by those not of it.

Before you give your testimony you are sworn or affirmed. Though your choice of being affirmed is not often objected to, yet it is not a matter of mere preference and a witness can be deprived of the right to affirm, if he or she has no conscientious scruples against taking an oath. Since you always appear, at least nominally, as a witness for one side, you are first questioned by that side, in what is called the direct-examination, which is somewhat restricted in range. In important cases, the legal sparring, which is so entertaining to the spectators and so carefully reported by the newspapers, begins almost at once and the opposing counsel may rise and check your answering, with the remark, "I object," or "Don't answer that question." Both attorneys will then turn to the judge and occasionally the matter will be argued at length. Your part is only to remain passive. Let me ask you not to be hasty to answer. Give the opposing attorney every opportunity to interpose objections, because the admission or rejection of questions is purely a matter of law with which you have no concern. Try to be plain in your language. This is not always easy. One gets accustomed to the technical language of science and it becomes plainer and easier than every-day words. Lawyers, themselves, though often complaining about the pedantry of doctors, do not hesitate to use highly technical words and phrases, to talk about, for instance, *res gestæ* and *corpus delicti*. It is well, however, to make an effort to say "bleeding" instead of "hemorrhage," "spitting" instead of "expectoration," "vomiting" instead of "emesis," "inflammation of stomach" instead of "gastritis," "corrosive sublimate" instead of "mercuric chlorid."

It is a delicate matter to caution you not to exceed the bounds of fact in your direct evidence. I assume, of course, without hesitation that you will desire only to state that which you think true, but lawyers are experts at making the worse appear the better part, and they often lead a witness into broad and un-

tenable statements, the insufficiency of which may be shown later to the confusion of the expert. That there are in this country experts who are reckless in their statements and who pervert facts and principles for the sake of large fees is only too true; and these men have unfortunately been regarded as representative of the whole profession. Hence the frequent dislike which courts show toward experts, and the latitude which they permit to attorneys in questioning.

I would advise that you make no effort to set bounds to the personal acts of attorneys, nor to resent insinuations as to honesty or ability. It is far better to answer each question coolly and clearly, and leave to the attorneys representing the side for which you are called to put a stop to the procedure. They are much better equipped than you to fight on this line, and a capable lawyer will do it at the proper time. Do not appeal to the judge as to whether you shall or shall not answer a question.

I have remarked above that the law does not expect you to perform impossibilities, and, therefore you are not expected to remember in minute detail the observations of a *post mortem* or analysis or other professional work. You are allowed to consult notes, but they must be original memoranda made at the time of the observation or soon thereafter. I do not know that the law has fixed the limit of time; each case will be judged by itself, but the practice of not admitting copies of memoranda is well settled.

It will be opportune here to discuss some of the practical details concerning *post mortems* or any scientific inquiry that you may make for the legal authorities. I do not intend, of course, to say anything about the technic of those operations, but the business and professional matters in point. You will be interested in knowing how you are to secure your pay for service. All officers are not privileged to authorize expenditures, and you may be left without compensation for much labor if you are not careful. In many counties, the county-commissioners alone are authorized to incur expenses outside of specific appropriations, but in other cases the district attorney, or prosecutor of pleas, as he is often called, has similar power. The coroner often has an item in his appropriation bill which provides a sum for expert work. It will be well to inquire for yourself and get a contract in writing in the form of a letter or order directing you to do the work and specifying your compensation. As a rule, I have had but little loss in official fees, but I was once cheated in one county in this State, even my mileage and witness fees having been collected by a court officer and pocketed.

Avoid making autopsies at night. It is not possible to do justice to the work under such conditions. Take full notes in technical language of all points brought out in the course of the work and keep these as the original memoranda for use in court. Enter in these notes only facts, leaving inferences from the facts to be discussed later. Thus, if you enter, "mucous lining of stomach highly inflamed with extravasation of venous blood," do not add, "probably irritant poisoning." You will be asked in due time to describe the condition of the stomach, which, after referring to your notes you will give in simple language so that court and jury will comprehend it and then you may be asked, "What does this condition indicate?"

If specimens are to be taken for analysis or exhibition in court they must be so kept that there may be no dispute as to their identity. There must be no "solution of continuity" in the transfer of specimen. It must not be left at the laboratory of the chemist or pathologist in his absence. Important specimens should be sealed. I find that many persons think that sealing means merely to daub melted wax over various parts of the package, and let it harden in irregular lumps; but proper sealing involves the imprinting of some distinct design on the wax, so that if the seal be broken it cannot be restored. It is best always to take dated receipts for packages delivered. These receipts are original memoranda and often of value in fixing the history of a package.

I hope, if you have anything to do with the taking of specimens for analysis in a case of poisoning, that you will make every effort to keep the various

organs separated. Do not put pieces of the liver and kidney in the same jar with the stomach and its contents. This destroys one of the most important links of evidence, namely, the proof that the poison has been absorbed into the system before death. How can poison be assumed to have entered the liver before death, if the piece sent for analysis has been lying for hours in the same jar with the stomach contents? Yet I have known an eminent pathologist, now deceased, to put specimens together in this way. Do not put specimens into old tomato-cans, beer bottles or old anatomical jars (I am speaking now of actual cases within my experience), but use, if possible, new jars.

The use of preservatives is a matter that often requires attention. It is best to avoid these, for they complicate the case. If it be necessary to use them, the material selected, *e. g.*, alcohol, should be from one lot which should be mixed and a sample, placed in a clean bottle, transmitted with the specimens, that the analyst may examine the preservative itself and be satisfied that it is free from the substance which has been found in the preserved specimens.

In selecting and preparing specimens, it must not be forgotten that microscopic examination is often needed, and the organs must not be rendered unsuitable for this purpose. The frequent use of embalming fluid makes it advisable that you should ascertain if any has been employed, and obtain, if possible, a sample.

When the direct examination has been finished, you are turned over to the tender mercies of the opposing counsel and then begins what is called the cross-examination. This often justifies its title. It takes a wide range and is often very skilful. Do not attempt to resent or restrain the attorney. The more a truth is talked about the more it becomes apparent. Shrewd attorneys are careful in examining expert witnesses. You will often be asked puzzling questions, to which a simple answer "yes" or "no" is demanded. In such cases answer as seems nearest right, and then request permission to explain your understanding of the question.

Your duties to the legal authorities are, however, not merely as witnesses. It is your duty to report to the proper officer any case in which you have good reason to believe that a crime has been committed.

An interesting question is in regard to privileged communications, that is communications which are confidential to the extent that you cannot be asked to repeat them in court. Unfortunately, the law in regard to these is not uniform nor thoroughly settled. In some States communications between the patient and physician, as far as relates to the disease, are privilege, and the physician is not even allowed to divulge them in court. In other States there is no definite legislation. In all cases these questions are matters for the court to determine.

Another important feature of your public functions is your relation to the sanitary authorities. In this you may be, with little labor or annoyance, of great aid. The early reporting of contagious diseases greatly assists in the restriction of them. Here, again, you are not expected to perform impossibilities. Boards of health know that immediate diagnosis is by no means always possible, and it is just as desirable that a non-contagious disease should not be reported as that a contagious one should be. You are allowed a reasonable time, and I advise you to cultivate amicable relations with the sanitary authorities and their agents and you will often be able to get their assistance in your diagnosis, and to carry on this part of your duties without friction. You must not forget that the collection of correct statistics of disease and mortality is a most important aid in hygienic progress.

In reporting causes of death, try to give the actual disease, not merely some incident of it. Avoid such vague terms as dropsy, heart failure, intestinal hemorrhage, convulsions, etc.

The law does not require a physician to guarantee a cure, nor even to render the highest skill known to the profession. Strictly speaking, you are at liberty to refuse to attend any patient. Practically, it will be well to exercise great caution in this regard.

These, then, are some of the principles that I suggest for your guidance in your relation to the public, and especially to the law. You will be scattered over a

wide area and will practice under different social systems and different methods of jurisprudence, but I think that what I have said will have some application in all cases; and I hope that the advice I have given will, if followed, inure to your own comfort and exalt the dignity of our profession.

A FURTHER CONSIDERATION OF THE METRIC SYSTEM.

A. L. BENEDICT, A.M., M.D.,* BUFFALO, N. Y.

In presenting this paper, the writer feels assured that the increased use of the metric system, even within the last three years, warrants a somewhat different treatment of the subject than has formerly been necessary. It is better understood and its opponents no longer are able to sneer at the attempt to introduce an untried novelty. Many arguments *pro* and *con* have been repeated so often that only an article of an historic nature could properly reiterate them. Thus, no apology is needed for ignoring logical sequence and plunging into the midst of a discussion of certain phases of the subject which have not yet been fully disposed of. The present article aims rather at the consideration of the decimal system in its entirety than at the purely pharmacal use of the smaller weights and measures, and is published in view of the action of the Congressional Committee which very nearly succeeded in making the metric system the business standard of our country.

An objector to the metric system has said: "The units of the metric system are inconvenient in size and not adapted to practical use. * * * Weights and measures should have some relation to the size and strength of the average man, and some relation, too, to the materials to be weighed and measured." Let us examine some of these units. The micro-millimeter (one-millionth of a meter) has been adopted by histologists and pathologists for the measurement of cells and bacteria. The cholera spirillum is one or two of these units in length. The millimeter is useful in learning the thickness of membranes. The epidermis is from a tenth to one millimeter in thickness. The centimeter (two-fifths of an inch) ought to be fully as useful as the inch. I have formulated the following simple rule for remembering the length of the fetus at different lunar months of gestation. For the first five months the length in centimeters is the square of the number of the month; for the last five months it is five times the number of the month. The decimeter is almost precisely four inches and this length is used in measuring horses under the name of hand. The meter, *a priori*, ought to be as useful for measuring carpets, cloth or small distances as the yard. The decameter is very nearly two rods and would be a convenient unit for marking out city lots or streets. We use the expression "a hundred yards" so frequently as to show the need of such a unit as the hectometer. The kilometer (about 3280 feet) is sufficiently large to be used instead of the mile in measuring long distances.

With reference to measures of weight, the kilogram, commonly abbreviated into *kilo.*, is the real unit. Being equivalent to two and two-tenths pounds, it is well adapted for small commercial transactions. The hectogram (about three and one-half ounces avoirdupois) would be convenient in selling spices and similar commodities. The tonneau (1000 kilograms) is a very close approximation to the "long ton." The liter of water weighs a kilogram and is nearly equal to a quart. Its decimal multiples, like the liter itself, are equally adaptable to dry and liquid mensuration, and they could readily supply the place of the peck and bushel, while the deciliter (one hundred grams of water) is little smaller than the gill.

One change is obviously necessary

*Lecturer on Digestive Diseases, Dental Department, University of Buffalo.

before the popular adoption of the metric system can be secured, namely, a simpler nomenclature, even at the sacrifice of the Latin and Greek prefixes which show so clearly the relation of multiple and fractional units to the basis of each particular scale.

If the metric system were in vogue, we could find in every kitchen, measures containing a hundred or a thousand times our principal unit of prescription writing and the extemporaneous preparation of antiseptic solutions, stupes, gargles, enemas, etc., would be greatly facilitated.

The standard man weighs one hundred and fifty-four pounds. If we give him a twelfth of a grain of corrosive sublimate, if he eliminates three hundred and eighty grains of urea, if he passes three quarts of urine containing five grains of sugar to the ounce, we have no idea of the relation of these quantities to the total weight. But if we call his weight seventy kilos., that is 70,000 grams and reckon the other quantities decimally, the calculation is almost a matter of mental arithmetic. In the instances given we have the approximate ratio table:

0.005 : 70,000 = 1 : 14,000,000
24.5 : 70,000
32. : 70,000

And such computations would become still easier had they started with metric conceptions of weight and measure.

The utmost ingenuity has been shown in finding arguments against the metric system. It has been urged that it is inconsistent that a decimal system should be founded on "a vulgar fraction, a quadrant or fourth of a terrestrial meridian." In trigonometry, calculus and analytical geometry, and in one conception of quaternions the quadrant is considered the unit rather than the entire circumference of a circle, just as in Euclidian geometry the radius is the unit, although it is half of a diameter. Fault has also been found that "the metric system in taking as its unit of linear measure a portion of an arc of a terrestrial meridian, makes use of a curved line to measure straight lines. In this it is apparent to every one that it is eminently unscientific."

The meter is also inveighed against as "arbitrary," "grossly unscientific" and unfitted for international use because it is "based upon the length of an arc of the meridian of Paris, and not upon the mean of all possible meridians." A little study of our common units will show that they are arbitrary, with scarcely a pretense at scientific relations to other units. The *foot*, for example, is supposed to be the length of some prominent person's foot, while Webster's definitions of *yard* and *pound* give no hint as to their origin.

The earth is the most natural and almost the only available basis for a scientific system of mensuration destined for world-wide use, and until we have tunneled through the earth's center we must resign ourselves to the necessity of measuring its surface in arcs of great circles. It may be grossly unscientific, but it is absolutely inevitable, that curves of different kinds and straight lines must remain incommensurate. The mathematical expedient which lies at the bottom of circular geometry and of the calculus of curves consists in regarding a curve as made up of infinitely short straight lines. Doubtless the Paris meridian was surveyed by measuring a small part of it as a straight line. No survey can be absolutely free from inaccuracies, but the statement may be ventured that the standard meter might be exchanged for one exactly one-ten millionth of the Paris quadrant or of the mean of the quadrants of "all possible meridians"—with some finite restrictions on the literal interpretation of that expression—and that the substitution would make no appreciable difference in the weights and measures used for dispensing drugs, or in those used in the largest commercial transaction.

Prof. Oldberg advocates the division of units by powers of two. For actually constructing measures and weights this is certainly the most convenient method, but as a proper metric prescription calls for multiplication or division by ten, twenty or thirty, a simpler arrangement can scarcely be imagined. In calculating doses for children, we need only bear in mind that a child n years old needs about $\frac{n}{10}$ of the adult dose of a drug. We will find that neither the physician nor the druggist will miss units which can be divided by powers of

two. Moreover, there can be no possible objection to speaking of five milligrams as half a centigram nor to subdividing the milligram into halves and quarters, but while the apothecary's system requires the use of fractions of the grain for even moderately strong drugs, the minuteness of the milligram obviates, almost entirely, the use of fractions.

Perhaps the quaintest of all arguments against the metric system was advanced some time ago by a contributor to the *Medical News* who declares that "the metric system is an intolerant system, an ally of despotism. * * * * * It is uncongenial with Anglo-Saxon freedom, and will never be adopted by the people of that race, however much the scientific gentlemen who choose to bow the knee at its shrine may try to persuade them."

The same writer continues. "Don't spoil good books written in English for an English speaking audience by interlarding them with the hieroglyphics of a foreign tongue." One might reasonably understand him to object to the use of Latin names of drugs, or to the use of Roman numerals which outside of prescriptions survive on some cornerstones and clock-dials and are seldom found elsewhere. From the context, however, he presumably refers to the same Arabic figures with which he probably keeps his accounts and to the metric units whose origin is, after all, no more foreign than the familiar units of the apothecary's system.

It is difficult to understand why a question of weights and measures should be regarded sentimentally. It is not an issue to which a patriotic adherence to Anglo-Saxon institutions or an expression of race prejudice is appropriate. England is by no means the ancestral land of all Americans, and it is a matter of individual genealogy, even with those of English descent, whether their allegiance is to the Anglo-Saxon or the Norman. No sensible man would think of opposing the use of glonoin because it became prominent in the practice of homeopaths, nor of strophanthus because it was an ignorant savage's arrow-poison.

In our discussions of the metric system, let us be as common-place and practical as we would be in reference to any other adjunct to our professional equipment. When we consider that a system of denominate numbers is offered us, which aims at placing in simple and intimate relationship the burette, the graduate, the druggist's weights, the coal scales, the milk-can, the surveyor's chain, the tape measure; in short, the lengths, volumes, weights and areas of all occupations, we ought not to complain that the French Government did not precede its terrestrial measurement by tunneling the earth from pole to pole in order to start with a straight line; nor to reject an international system because some one nation had the enterprise and far-sightedness to develop it completely, before submitting it to the rest of the world.

Extra Facilities for Charity Patients.

Dispensary patient (to medical attendants)—"Can I hang my sealskin where it would be safe until you get done with me?" "Certainly, madam; kindly wait your turn and get a check from the superintendent." "How long must my coachman wait?" "He must stand in line until his number is called."—*Doctor's Factotum.*

Through the telephone. Mrs. Merony—"Is that you, doctor?" Doctor—"Yes; who is it?" Mrs. Merony—"Mrs. Merony. O doctor! what shall I do for the baby? He has swallowed a dime." Doctor—"Well, you surely don't want to spend $2 to get a dime, do you?" And the telephone ceased to work.—*Newman Independent.*

"Now, sir," said the professor of medicine, "you may tell me to what class of maladies insomnia belongs." "Why-er," replied the indolent youth, "it's a contagious disease." "I never heard it so described. Where did you learn of this?" "From experience. Whenever my neighbor's dog can't sleep I'm just as wakeful as he is."

An Irishman asked a Scotchman one day why a railway engine was always called she. Sandy replied: "Perhaps it's on account of the horrible noise it makes when it tries to whistle."—*Pearson's Weekly.*

VAGINAL HYSTERECTOMY.

ALFRED GORDON, M.D., PHILADELPHIA.

Possibly the two most important operations the modern gynecologist may be called upon to perform are those of laparotomy and hysterectomy *per vaginam*. It is true that not every one is necessarily familiar with these, and many men complete their lives in general practice without performing either; yet every gynecologist should be fully acquainted with their technic, capable of performing either without hesitation, according to the indications, and able to fully balance their merits in order to choose the better for each case. Until recently, laparotomy was the favorite operation in cases of unilateral lesions and pelvic suppuration, and it is only comparatively recently, that vaginal hysterectomy has come into favor. It has recently been performed by many men prominent in the profession, but with such successful results that at the last International Congress, held in Geneva, Switzerland, it was made the subject of reports by the acknowledged leaders in gynecology. After consideration and discussion of these reports, the following general principles were formulated by the Congress:

(1) Vaginal hysterectomy may have the same results obtained by laparotomy in cases where the last is indicated.

(2) In affections where laparotomy is powerless or dangerous, it permits of ready treatment and cure.

In cases of pyosalpinx, where there is no particularly exaggerated collection of pus, or where suppuration has been set up in the ovaries, vaginal hysterectomy gives the same result as laparotomy, but with much greater ease and far less time. It is an operation of but a few minutes, while in laparotomy the most skilful operator must consume considerable time in ligating, cauterizing the stumps, cleansing and obtaining a careful hemostasis of the empty cavity, and finally for the triple suturing and dressing of the incision. Of course the result obtained is the same in both cases, but the means leading to the result are incomparably simpler in the operation *per vaginam*.

Still, in cases of pelvic suppurations or of large collections of pus, comparison is not possible. Richelot says (*Vaginal Hysterectomy*): "In cases of large collections of suppurating matter, complicated with adhesions, the operation of laparotomy has proven a failure, while a triumph has been scored for vaginal hysterectomy—an undoubted triumph." In fact, when, in such cases, the abdomen is opened the operator can scarcely distinguish the organs which are adherent, displaced or unrecognizable. In some of these cases the pus tube is adherent to the back of the uterus, and the least attempt to separate them risks the making of a fissure in the walls, giving passage to the pus. In more complicated cases where the infection has reached the pelvic cellular tissue, the broad ligaments are found thickened by chronic inflammation. Perforations may be found in the rectum, bladder, or any part of the intestines through the peritoneal adhesions. It can readily be seen that these things greatly increase the danger of the laparotomy operation.

In these or similar circumstances vaginal hysterectomy is not more than a simple opening. In the course of the operation, sometimes at the beginning of opening the posterior *cul de sac*, the pus escapes, and thus its cavity becoming reduced, opportunity is afforded to disengage the pouch. If the cavity is not opened an aspiration brings the pus out, and the adhesion can easily be broken up. In case of adhesions with the epiploica or with the intestines, they will follow the pouch as it is brought down, and can be freed. Should another pus collection be felt by the finger above the other the operator can rupture it, let out the pus, and wash out the cavity. In cases where there are very large collections of fetid pus, and fistulas exist into the bladder and intestines, removal of the diseased appendages should not be attempted, but the operator must

content himself with merely opening and evacuating the pus cavities, and washing with large quantities of sterilized water. The operation is of course incomplete but the result is excellent.

All those taking part in the discussions before the Congress claimed that a rapid recovery resulted from incomplete extirpation, and the objection that the patient risks recurrence of trouble because of this incompleteness is unfounded where Péan's operation is used. The greatest difficulty is found in extirpating the uterus, since, on account of its being fixed, it cannot be readily brought down. Péan, and all after him, advise morcellation. The anterior *cul de sac* being free from adhesions, the morcellation is begun from that side. The anterior wall of the uterus is removed by pieces from the middle line toward the periphery. The posterior wall is then bent on itself by traction with forceps and the fundus is brought into the vagina.

Bouilly states that in some cases he left the fundus in the pelvis, but that the patients made a good recovery. Some other gynecologists have left in the pelvis pieces of the pus pouches and parts of tubes or ovaries, and did not observe occurrences of the inconveniences which were theoretically advanced. In sixty-one cases of pelvic suppuration Richelot performed twenty-two total extirpations and twelve unilateral extirpations, while in twenty-seven cases he left the adnexa. In 421 operations Jacobs performed forty-nine incomplete; Rouffart thirty-four of fifty-two cases; Doyen four of sixty-one, and Bouilly eleven of fifty-two cases.

Let us consider now the objections made by the gynecologists who are not in favor of vaginal hysterectomy. Among the most important are injuries of the viscera (bladder, ureter, intestines) and hemorrhages. Injury of the bladder is possible either at the beginning of the operation, while liberating the anterior lip of the uterus, or in the course of the work. But if great attention is paid to the liberation of the cervix, which is accomplished with the thumb nail or with a dull instrument, and the dissection is made down to the level of the uterine tissue, which is scraped (Ségond), and if the two first clamps are placed on the uterine arteries close to the cervix, there is great certainty that the bladder will be avoided. Further, the peritoneal *cul-de-sac* ought to be opened during the following stage when the cervix has been entirely freed and when the body of the uterus is attacked (Ségond). Later in the course of the operation the danger of injuring the bladder is from the use of the speculum lying between the uterus and bladder in order to protect the latter; but by gently pushing backwards the soft parts in front of the uterus and by using a speculum with a short blade, the bladder is not injured.

As to the ureter, its injury can be avoided when the operation is properly performed. Dr. Ségond, in his paper read before the American Gynecological Society on May 27, 1896, reports that in a total of 600 hysterectomies he wounded the ureter twice. He says that the injury of the ureter may be produced either in the course of morcellation of the uterus or if the speculum is too brutally handled. The injury may be produced at the beginning of the operation when the two first clamps are placed on the uterine arteries. Here Ségond advises to place the clamps quite close to the uterine tissue and especially not to apply these clamps until after having liberated the soft parts in front of the uterus widely and very carefully.

It is impossible to wound the rectum when there is no pelvic peritonitis, and under contrary conditions more attention is required. In order not to perforate the rectum Ségond formulates the following rules: "Dissect with the finger very prudently and use the speculum as little as possible. When the cervix is amputated place a strong double tenaculum on the posterior uterine wall to draw it down." Besides the rectum other intestines can be injured, but the great danger occurs only when proceeding to ablation of the adnexa. But Péan, the author of "Vaginal Hysterectomy" gives the following rule: "To leave nothing unprovided for; to do only that which can be seen and only to trust to sensations of the touch when they are very distinct, and if it is impossible to carry out this program, it is indispensable to stop and to be contented with an uncomplete operation under penalty of risking accidents."

The last complication of vaginal hysterectomy is hemorrhage. This may occur late, the more disquieting hemorrhages being those which occur at the end of forty-eight hours. Clamps properly placed will prevent them. Late hemorrhage can also be avoided by keeping the patient longer in bed. It is indispensable during the operation to clamp everything well which bleeds, using the long speculum of Péan in order to see well. The operator must not be satisfied until he has decided by evidence that there no longer exists anywhere the slightest exudation of blood.

This article may well terminate with Dr. Ségond's remark: "Without doubt the vaginal hysterectomy just like laparotomy has its obstacles, its dangers, its imperfections, its impossibilities, but it remains nevertheless a marvelous operation, which must come into general use as well for fibromas which do not pass the umbilicus as for the bilateral ablation of the adnexa, when this is very clearly indicated."

CURRENT LITERATURE CONDENSED.

Food Tablets.[1]

Not long ago an American chemist, evidently a disciple of Prof. Berthelot, of France, stated that the time was near at hand when hot water and food tablets would be the sole accoutrements of a kitchen; that the essential food elements of a twelve-hundred pound steer can be put into an ordinary pill box, and that a single concentrated soup tablet the size of a pea, will make a large bowl of soup of full nourishing strength. A ration case weighing eight ounces was planned. It contained the following supply: Three tablets of concentrated soups, equal to three quarts; four beef tablets, equal to six pounds of the meat; one milk tablet, equal to one pint; two tablets wheaten grits, equal to two pounds; one tablet egg food, equal to twelve eggs.

Viewed from a chemical standpoint it may seem possible to reduce, by condensation, the bulk of man's food almost indefinitely and thus furnish in a thoroughly portable and convenient form nutriment for the body which will remain unchanged through long periods of time and in spite of the influence of varying conditions of temperature and climate; but from a physiological point of view may be seen serious obstacles to the successful consummation of such a proposition. That condensed and concentrated foods have a direct sphere of usefulness will not be denied, but that food tablets and similar products are well adapted to constitute the sole food of healthy men for any length of time is an undeniable fallacy. Combined with fresh foods they may yet prove of service for, like the particles of yeast added to the dough, the necessary principle contained in the ordinary food may leaven the whole lump.

But practical experimental evidence is always most convincing and hence we append the following dispatch which recently appeared in a reliable periodical: "A dispatch from Denver was published stating that the troops at Fort Logan have made the first test of the new emergency ration. One company went out for three days of forced marching in the foothills of Denver, loaded with coffee tablets and compressed soup that was supposed to contain all the advantages of hard tack and coffee. On the night of September 11, the medical officer charged with weighing and watching the men rode into Morrison for assistance. He reported that thirty-six out of the fifty men are down with griping pains resulting from the non-assimilation of the scientific ration. The order could not be revoked, and the men in the field were informed that they would have to remain on the march for two days longer."

[1] Dietetic and Hygienic Gazette.

Father—Well, Tommy, how do you think you will like this little fellow for a brother?

Tommy (inspecting the new infant somewhat doubtfully)—Have we got to keep him, papa, or is he only a sample?

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Chronic Inflammation of the Spine.

Mercurial treatment associated with bathing is recommended for chronic spinal inflammation by Dr. Schuster, (*Deutsche Med. Ztg. 26, 1896*). In tabes a 35° C. (95° F.) bath weakens the patient, because most of tabetic patients have a lessened resistance. Fearing unfavorable results, Dr. Schuster never administered a 38° C. (100°.4 F.) bath. In one case of myelitis lumbodorsalis transversa he exceeded that temperature. After having vainly tried many internal and external means he ordered baths of 36°-39° C. (97°-102° F.). As the patient bore them easily, baths of 39-40-41° C. (102°-106° F.) were given to him and for eighteen to twenty minutes. After a fourteen days' treatment the patient was able to leave his bed, continuing however to take baths during three and one-half months. Afterwards he could even walk in the room, while before the treatment the least movement of the legs was painful.

In one case of left hemiplegia and in two cases of pseudo-paralysis progressiva the author used short hot baths successfully. He believes that in cases of chronic myelitis hot baths of 40° C. (104° F.) can be used, when inunctions and warm baths were without success. Furthermore he advises everybody whose family's history shows that there is some tendency to apoplexy to bathe in water of 42° C. (107°.6 F.), but not to exceed this temperature. Weakness of the heart is not, but old age is, a contraindication.

Hot Water in Surgery.

Dr. Reclus (*Ther. Monatschr.*, 51. '96), thinks that hot water relieves pain resulting from inflammation and ulceration, and shortens the inflammatory process and the suppuration. He recommends hot water also in distortions, hemorrhoids, inflammation of the prostate and female genital organs. In distortions massage and compression associated with hot baths are very useful. Here the hot water relieves the pain, quickens the circulation and consequently facilitates the reabsorption of the periarticular exudates. In injuries of the extremities the author recommends to cover the limb with warm rags except the injured part, which is cleaned and irrigated with hot water of 60-62° C (140°-144° F.). The water has here antiseptic, analeptic and hemostatic action. In angina the gargling with water of 55° C. (131° F.) renders very good service. In small or medium sized hemorrhoids applications of 55° C. water to the anal region and enemas of the same temperature give very good results. In acute prostatis irrigations with 55-60° C. water has a good influence on the swollen prostate; these irrigations can be employed twice daily until recovery is assured. Even in chronic hypertrophy of the prostate such irrigations are useful, and are liable to avoid the threatening retention of urine. In inflammatory processes of the adnexa rectal irrigation of a 55° C. water gives very satisfactory results. The lukewarm vaginal irrigations have no other purpose but cleaning and the best way of treating the adnexa is by the rectum.

Cancer Treated With Chelidonium Majus.

Dr. Denicenco (*Wratsch. St. Petersb.*), experimented with chelidonium first in cancer of the lips, and having obtained good results he used it in inoperable cancers. He employed the extract internally, in painting and interstitial injections. The patient takes 1.50-5 grams (℥is-jss) of the extract in twenty-four hours in the form of a solution in aqua destillata or aqua menthæ piperita. The painting is done twice a day on the ulcerated surfaces with a mixture of two parts of extract of cheli-

*Translated for THE MEDICAL AND SURGICAL REPORTER by Dr. Alfred Gordon.

donium and one part of glycerin. Interstitial injections are made with a mixture of equal parts of extract of chelidonium, glycerin and water. On account of a prompt deterioration of the solution one-half per cent. of chloroform is added if it is wished to preserve the liquor for two or three days. Every day one Pravatz's syringeful is injected. The injections cause pain in the place of the injections, after which comes a general weakness, a severe chill and elevation of the temperature to 38-39° C., but the next day all these symptoms disappear. On the first days of the treatment the tumor softens and seems to melt; in three to five days the fistulas appear at the level of the punctures; around these fistulas the neoplasm seems to be dissolved; in fifteen to twenty days the healthy tissues seem to be separated from the tumor, which is expelled; the ganglions become normal. The author examined histologically all the cases which he had for observation and is assured of their malignant nature.

Placenta Previa.

Statistics of about fifty cases have been collected by Dr. Füth (*Centralblatt für Gynecologie*) of placenta previa, and a mortality of about 38 per cent. is reported by him. He proposes the following treatment:

1. So soon as the diagnosis is made it is necessary to induce premature labor.

2. For proving this labor it is advisable to employ means enabling the quick stopping of hemorrhage while permitting of dilating the cervix. These must be able to produce the dilatation promptly, and be sufficient to terminate the labor.

The best resort for this purpose is to put a colpeurynter into the uterus and use a continuous traction on the instrument; the membranes of course must be ruptured at the beginning. The author does not believe either in expectant methods, recommended by some authors, or in tamponing, because the expectant method exposes the patients to repeated hemorrhages, and the tamponing to infection; moreover, the tamponing, unless exceptionally well applied, does not stop the hemorrhage. The method of use to the mother is also the best for the children, which do not suffer by the mother's repeated hemorrhages. The colpeurynter can be applied as soon as there is a possibility to introduce one finger into the cervix. At least this method is by far easier than combined version.

Danger from Curetting the Uterus in Extra-uterine Pregnancy.

Two German authors, Hofmeier and Löhlein (*Centralbl. f. Gynäk*, August, 1896), call attention to danger of curetting the uterus in extrauterine pregnancy. In Hofmeier's case the patient fell in collapse immediately after interference. Laparotomy was performed, and in the small pelvis a large quantity of fresh blood was found. In two cases reported by Löhlein the uterus was curetted for metrorrhagia, which was attributed to incomplete abortions. The first patient died in consequence of a diffuse peritonitis. At the autopsy a rupture of a tubal pregnancy of four months was stated, and the fetal sac was cystic; in addition to that, fresh blood was found in the peritoneal cavity. The second case was that of a twenty-seven-year-old woman, who, after an interruption of her menses of seven weeks, had metrorrhagia. The author curetted the uterus in order to stop the hemorrhage, which he attributed to an incomplete abortion. A peritonitis was the consequence of the operation, but the patient recovered through a laporotomy. In the course of the last operation a sac of a ruptured tube surrounded by blood clots was found. The authors think that it is very dangerous to have recourse to curetting in cases of extra-uterine pregnancies.

Meat Broths in Digestion.

The acidity of the stomach contents is, according to Dr. Kosminin, (*Wratsch. St. Petersb.*, October, 1896), higher after eating soup than after an ordinary breakfast, also the combined salts exist in a high degree. The digestive power of the stomach seems to be decreased after eating soup, but the reabsorptive power of the stomach, the quantity of peptones and motor strength are increased.

1853–1896

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers

Editor and Manager
HAROLD H. KYNETT, A.M., M.D.

Associate Business Manager
WM. H. BURR, M.D.

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.
P. O. BOX 843

Editorial Staff:

A. L. BENEDICT, A.M., M.D.

SAMUEL M. WILSON, M.D.

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.
REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.
COMMUNICATIONS for the Editor, and books for review, should be addressed to the Managing Editor of the MEDICAL AND SURGICAL REPORTER, 1026 Arch Street, Philadelphia.
BUSINESS COMMUNICATIONS, and letters referring to the publication, subscription or advertising department, should be addressed to the General Manager, P. O. Box 843, or 1026 Arch Street, Philadelphia.
CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for at liberal rates, after publication (payments made quarterly), or a limited number of reprints will be furnished as the author may elect. Extra reprints will be supplied at cost rates to the journal. Orders for reprints *must accompany* MSS. To ensure the return of contributions not made use of, writers must enclose return postage.
THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, DECEMBER 26, 1896.

PUBLISHERS' NOTICE.

Subscriptions to the REPORTER are payable in advance, and the season being at hand when renewals are most frequent, the publishers request each subscriber to examine the address printed upon the wrapper in which the journal is mailed. The date printed with the address is that TO which the subscription is paid. The subscriber will see at a glance the status of his account. Formal acknowledgment is made of every remittance as received, and the date upon the wrapper is revised accordingly. If not properly altered within three weeks, subscribers are requested to notify us of the oversight in order to prevent subsequent mistakes. Delinquent subscribers will learn the date since which their accounts are in arrears.

EDITORIAL.

SUBSTITUTION?

Messrs. Fairchild Brothers and Foster have mailed to members of the medical profession in Buffalo a letter stating that a prescription calling for their essence of pepsin had been obtained from the store of Mr. George E. Sykes, of that city, and that the contents of the bottle, on analysis, proved to be different from the preparation ordered. Mr. Sykes has, at our request, written THE REPORTER so that both sides might be fairly represented and his letter appears elsewhere in this issue.

A controversy of this nature, especi-

ally when brought so publicly to the attention of the profession, ceases to be a local matter. A well-known and reputable manufacturing house accuses a pharmacist in good standing, and probably locally as well known as his accuser, of what amounts to dishonesty. If one or the other of the parties concerned were generally known as disreputable, the case would be a much simpler one to pass judgment upon, while it would be of less general interest since the man who has dealings with a rogue does so at his own risk and deserves little sympathy if he meets with disaster. Whichever party proves to be correct, the case is one of bad omen to the medical profession as well as to the allied profession of pharmacy. Substitution on a prescription is a moral evil directly covered by the sixth and eighth commandments. The man is stealing who sells a drug to a person impliedly unable to distinguish between the genuine and the false, and stealing in as contemptible a way as the man who sells a little child an apple rotten at the core, taking advantage of the ignorance of his customer. More than this, the substitution of one drug for another may mean foiling the physician's efforts and may cause the death of the patient.

The case in question involves these ethical points rather indirectly, to be sure, since we can scarcely claim that the firm of Fairchild Brothers and Foster is the only one which manufactures a pure and active preparation of pepsin, and since many men who make a study of gastric chemistry are extremely skeptical as to the value of pepsin as a drug. While such considerations might be used in extenuating a druggist's action, it is very evident that the one rule must guide him in all cases.

In an emergency it is usually easy to telephone to the physician who issues a prescription and secure his consent to a proper substitution; or, if this is not feasible, the druggist can at least deal honestly with the patient and acknowledge the substitution. Again, it is well worth the consideration of the medical profession that the specification of a particular manufacturer is, essentially, unethical and that it tempts even the well-meaning pharmacist to a dishonest practice. Just as it is the duty of the one profession to regard the letter of the prescription, so it is the duty of the other to use specification only when really necessary and to adhere to official preparations whenever possible.

We are glad to note that Mr. Sykes has no excuse to offer, but that he makes a sweeping denial of the charge against him. We hope that this blow to the confidence of the medical profession in both the manufacturing and the dispensing branches of the pharmacal profession will be recovered from and that further investigation will show that both parties are the victims of some misunderstanding or misrepresentation. Otherwise, whichever party proves to be correct, the medical profession will feel that it is leaning on a staff that cannot be trusted.

An Exception.

In an examination of sanitary inspectors one candidate answered the question relating to the wilful exposure of a person suffering from an infectious disease: "He must not ride in any public conveyance, excepting a hearse, without first informing the driver."—*The Medical Times and Hospital Gazette.*

"No, darling," said a mother to a sick child, "the doctor says I mustn't read to you," "Then, mamma," begged the little child, "won't you please read to yourself out loud?"—*Tit-Bits.*

A coroner's jury in Maine reported that "deceased came to his death by excessive drinking, producing apoplexy in the minds of the jury."

CORRESPONDENCE.

AN ABSOLUTE DENIAL.

EDITOR OF THE REPORTER:

Dear Sir:—My attention has been called to a letter which Fairchild Brothers and Foster have sent to a number of Buffalo physicians accusing me of having substituted some other drug in a prescription for their essence of pepsin, when that preparation was specified.

This accusation is absolutely false in every particular and detail. Indeed, for at least three months past I have not had any essence of pepsin in my store, with the exception of that made by Fairchild Brothers and Foster.

While admitting that substitution is an offence of which some druggists are occasionally guilty, the number of physicians who have voluntarily called since they received the letter alluded to, and have assured me that their experience of my methods during the past fourteen years has been perfectly satisfactory, leads me to the conclusion that the effort of the firm to advertise themselves at the expense of my reputation for fair dealing has proved a failure. I propose to take legal advice as to what measures can be taken against the makers of this utterly unfounded charge. GEO. E. SYKES.

BUFFALO, N. Y., December 20, 1896.

PERISCOPE.

NEWS AND MISCELLANY.

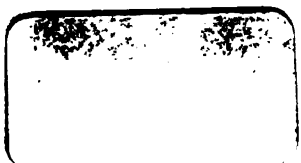
The Regular Meeting of the Medical Section of the Buffalo Academy of Medicine, was held December 8. Program: "Care of Delicate Children," Dr. Ross; "Feeding of Children Under Five Years of Age," Dr. De Lancey Rochester; The serum diagnosis of typhoid fever. Report on a series of fifty cases, Dr. Frank J. Thornbury and Dr. A. H. Appell; "A Confirmatory Report of Widal's Serum Diagnosis of Typhoid Fever," Dr. Julius Ullman and Dr. Albert E. Woehnert; Report of an Unusual Clinical Case, Dr. G. A. Himmelsbach.

Dr. Thomas More Madden has recently received from the Royal University of Ireland the degree of M. A. O. (*Honoris Causa*) or Master of Obstetrics. Dr. More Madden has a world-wide reputation as an obstetrician, and besides a well-known treatise on Clinical Gynecology, is the author of several other standard medical works. He has been President of the Obstetrical Section of the Academy of Medicine, and Vice-President of the British Gynecological Society.

In two cases of aneurism of the arch of the aorta Dr. Telleto (*New York Medical Times*) has observed a rhythmic nodding of the head to be present, which appeared to be synchronous with the heart beat. Their movements were to be augmented in intensity by having the patient throw his head back. This symptom he ascribes to downward traction of the left bronchus and trachea during the systole. It must not be confounded with regular muscular contractions nor the rhythmic nodding of certain nervous diseases.

A case in many respects unparalleled in surgical annals is reported in *Union Med.* by Pilate of Orleans. He removed a fibroma and used sponges and antisepticised tarlatan compresses. On the evening after operation there was vomiting, then pains in the right flank came on. Phlebitis of the right leg set in. These symptoms soon disappeared, and the patient recovered completely. Six months later pains in the region of the liver occurred; they were taken for hepatic colic. The pains became diffused over the abdomen, and vomiting and tympanites without fever occurred. At length a rise of temperature set in, and swelling around the uterus was detected. The patient became weak and thin, and an operation was about to be performed when she passed a compress such as had been used in the operation in a mass of hard feces. The patient at once recovered. Quenu related a case where a compress was left in on account of the confusion caused by the patient threatening to sink under chloroform during operation. The patient died, and the compress was found rolled up in a coil of intestine. Terrillon observed a case where pressure forceps remained eight months in the abdomen, and came out close to the umbilicus.

NOV 14 1902

~~RV 27~~

1.1.1325